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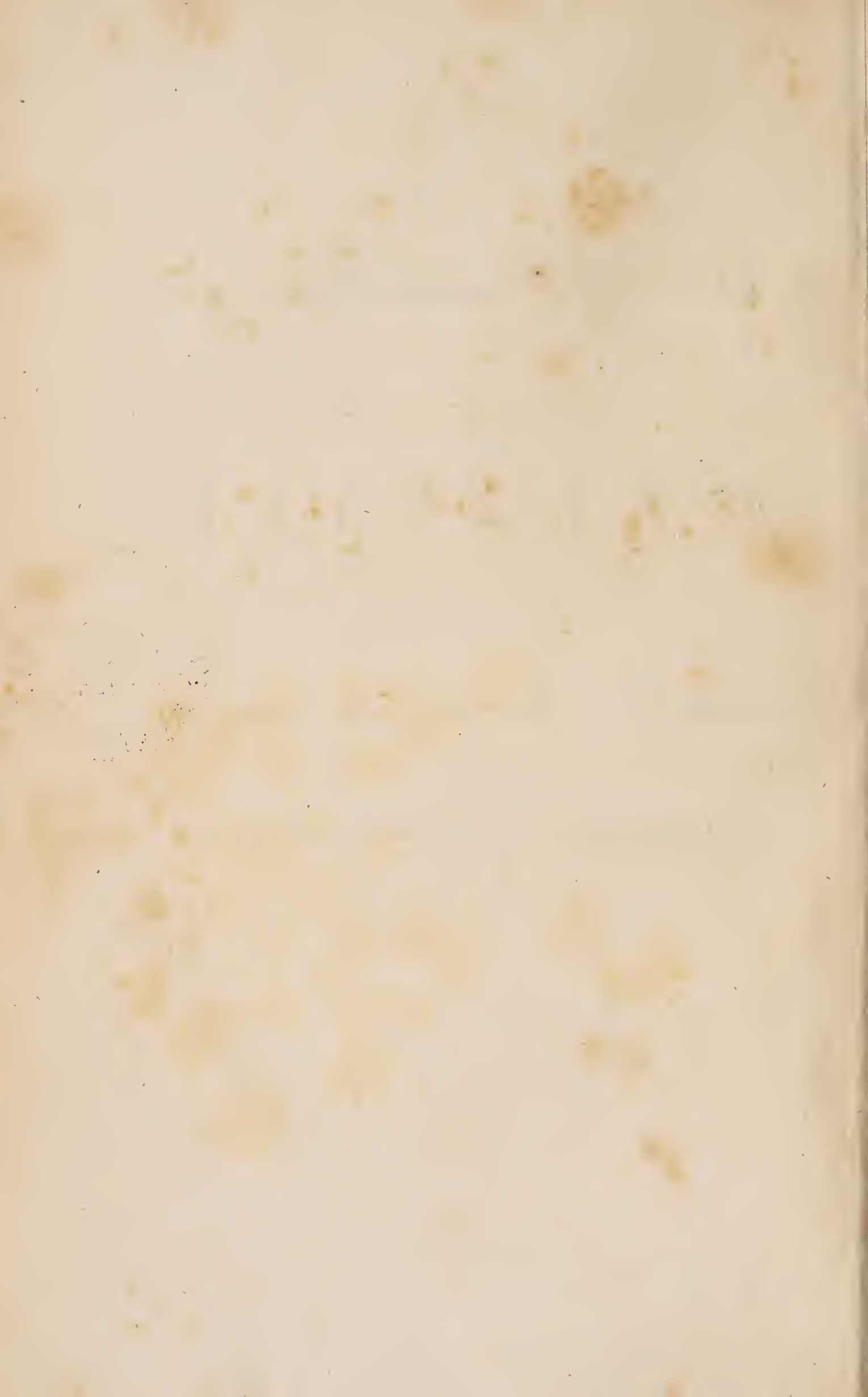
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T R E A T I S E

O N T H E

THEORY AND MANAGEMENT OF ULCERS, &c.



A
T R E A T I S E
O N T H E
THEORY AND MANAGEMENT OF ULCERS,
WITH A DISSERTATION
ON WHITE SWELLINGS OF THE JOINTS.
TO WHICH IS PREFIXED,
AN ESSAY ON THE CHIRURGICAL TREATMENT
OF INFLAMMATION and its CONSEQUENCES,

B Y

B E N J A M I N B E L L,

Member of the College of Surgeons of Edinburgh, and one of the
Surgeons to the ROYAL INFIRMARY of that City.



*Ad utilitatem vitæ omnia consilia factaque nostra dirigenda
sunt.* TACIT.

E D I N B U R G H:

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T O
P E R C I V A L L P O T T, Esq;
F. R. S.

And SURGEON to St Bartholomew's Hospital, LONDON.

S I R,

THE extensive practice in which you have been long engaged, and the many useful improvements, founded on experience, which you have introduced into Surgery, deservedly raise you to an eminent rank in your profession.

THIS alone would induce any practitioner to court the honour of your protection to his first publication. But I might justly be accused of ingratitude, if I did not also seize this occasion of publicly acknowledging my obligations to you, and of expressing my grateful sense of the advantages which I enjoyed, when

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2 D E D I C A T I O N.

I had an opportunity, not only of observing your practice in Surgery, but of becoming acquainted with the principles and opinions by which it was directed.

To render these sentiments of my respect and gratitude as public as they are sincere, was my only view in this address. To say more, or to assume the usual language of dedication, would, I know, be offensive to you. Permit me to add, that I am, with great respect,

SIR,

Your obliged,

And obedient humble servant,

BENJAMIN BELL.

EDINBURGH, }
March 3. 1778. }

P R E-

P R E F A C E.

SINCE the commencement of the present century, very considerable improvements have been introduced, both in Medicine and in Surgery. The latter, particularly, during the course of this period, seems to have been enriched with more real knowledge, than it was ever before possessed of.

FROM this consideration, it may possibly be alledged by some, that nothing new can now be offered on the subject of Surgery, and therefore, that any farther publication in that line, must, in some measure, be superfluous. Although much, however, has been wrote, and a great deal of light thrown upon the principal and more leading parts of Surgery, yet still, from less attention having been paid to some of its branches, there are many chirurgical diseases, which are neither so well understood, nor so accurately treated as we might otherwise have expected.

THIS seems, in a great measure, to proceed from the same and reputation commonly acquired

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ed by success, in the more capital operations of Surgery, which having a greater effect with the public, than the most successful treatment of complaints not *evidently* of so much consequence, has naturally prevented practitioners from paying to diseases of this nature, that attention which they certainly deserve.

AND in consequence of this, though the real operative part of the profession, is, in general, carried to as great perfection, as it may probably ever attain, yet Surgeons daily meet with disorders which baffle all their ingenuity, and by their failure in which, not only their own private reputations, but that of the art in general, suffers more than can be ever compensated for by *any temporary eclat* from an operation.

MANY complaints might be enumerated, which have suffered from such neglect, but none, it is presumed, are, in general, less understood, than some of those which make the subjects of the following Essays: The theory and treatment of Ulcers especially, although a great deal has been wrote concerning them, are still very defective: The descriptions given of them by authors, are
so

so tedious, and the distinctions so complicated and various, that to a young practitioner particularly, it is no easy matter, either to comprehend rightly such distinctions, or to apply the different remedies recommended for each.

APPLICATIONS and Medicines for ulcers, as pointed out by foreign writers especially, are, indeed, so numerous, and frequently so contradictory, that even the oldest practitioners find it impossible to reconcile them to reason; but they being generally introduced as in consequence of experience, that circumstance alone, makes them too frequently adopted, without being examined into: Whereas, a little attention would render it evident, that few publications on this subject, which have appeared for perhaps a century past, contain any thing new, but have been in general, merely copied by one author from another.

IT was this, together with meeting with more frequent disappointments in the cure of ulcers, than of any other complaint, which made me first pay more particular attention to their management. In consequence of which, I found a much less complicated treatment than had been generally

generally recommended, prove more efficacious, and a great deal of trouble saved thereby, both to myself and patients : How far the same methods may with others be found to succeed, I shall not pretend to say : This, however, I must observe, that there is nothing recommended in the following sheets, but what has been confirmed by repeated experience.

I am far from imagining, however, that any thing I have to advance, either exhausts the subject, or renders farther improvements in it unnecessary ; but whatever deficiencies the present publication may labour under, this advantage, may, at least, be expected from it, that it will point out to others, a material branch of the profession, which, for a long time, has been very much neglected ; a subject too, that still deserves their attention, and in which many useful improvements are yet probably to be made.

THE treatise on Inflammation and its consequences, was read several years ago, before the College of Surgeons of this place, and as it was approved of by some of my friends, I now insert it here with some additions and alterations :

Many

Many of the observations too, which occur on inflammation, applying with equal propriety to different circumstances of ulcers, the consideration of that subject, could not, it was presumed, be any where more properly introduced.

WHITE Swellings of the joints, is another complaint, in the treatment of which we are exceedingly deficient, and I am sorry to observe, that what I have to offer upon it, does not tend so much to its farther elucidation as I could have wished. But no regular account having ever been given of white Swellings, and as I have had many opportunities, both of seeing such complaints treated in the ordinary way, and of dissecting the diseased joints after amputation, it would not, I thought, to many, prove unacceptable, to have a full account of the latter, together with a general detail of the effects produced by the former.

BOTH these I have endeavoured accurately to do, but having nothing altogether satisfactory on the method of cure to communicate, prolixity on any other part of the subject, would not, I know, to the generality of practitioners, prove very acceptable.

I must here observe, however, that although nothing very material be pointed out, in the treatment of the more inveterate species of white Swelling, yet the distinction proposed to be established, of such disorders, into two distinct species, is a matter of no inconsiderable importance : For, swellings of this nature, being evidently produced by two sets of very different causes, the one occasioning a disease, which will probably be always considered as incurable, and the other a complaint, which may frequently not only be palliated, but even completely carried off, practitioners ought, therefore, in all such disorders, to be as accurate as possible in distinguishing the different causes which appear to have produced them ; and not indiscriminately to consider every case of white Swelling as incurable, and to proceed accordingly, as is generally done, to immediate amputation.

C O N-

C O N T E N T S.

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C H I R U R G I C A L
E S S A Y S.

P A R T I.

On INFLAMMATION and its consequences.

S E C T I O N I.

Of the Symptoms and Causes of Inflammation.

INFLAMMATION being, in many disorders,
especially in Wounds, Contusions, and Ulcers,
the most troublesome symptom that Surgeons
have to contend with ; a thorough investigation
of its causes, and of the method of treatment
most suitable to its removal, must, to every
practitioner, be an object of the greatest conse-
quence ; and is, of course, a sufficient reason
C for

for its consideration, being introduced as one of the first articles in every chirurgical dissertation.

INFLAMMATION, it is well known, is a disorder, to which every organised part of the body is liable; but as its attacks upon any of the internal parts, are generally attended with other, and sometimes very different symptoms, that more properly in the treatment belong to the province of Medicine; it is not, therefore, here intended to enter into the discussion of such; but merely to consider the complaint, with its several consequences, as it is most frequently observed to occur externally. And as the greatest part of the phenomena that in general attend it, will be understood from the consideration of phlegmon or local inflammation, it is proposed more particularly to confine the different observations to that species of the disorder.

§ 1. *Of the Symptoms and Terminations of Phlegmon.*

PHLEGMON is a term commonly applied to a circumscribed tumor, attended with heat, redness

ness, tension, and a throbbing pain. These are the first appearances observed in every case of phlegmon; and when they are slight, and the part affected of no great extent, they have commonly very little, and sometimes no apparent influence on the general system. But, when more considerable, and the inflammation extensive, a full, quick, and generally a hard pulse takes place; and the patient, at the same time, complains of universal heat, thirst, and other symptoms of fever.

IF, either by an effort of nature, or by the application of proper remedies, the pain, heat, and tension are removed, the other symptoms taken notice of, and which, in a great measure, or altogether depended on these, likewise abate, and the patient soon gets well. This is reckoned the first, and is generally the most desirable mode of termination for the disorder; and is termed Resolution.

IF, however, in the course of a short time, and that, notwithstanding the use of different remedies, the several symptoms of heat, pain, and redness, instead of diminishing, rather increase;
if

if the febrile symptoms are likewise augmented, and the tumor gradually acquires a larger size, turns soft, somewhat prominent in the middle, or towards its most depending part, gets a clear shining appearance, and becomes less painful; the different symptoms of fever then abate, and a fluid, upon pressure, is found to fluctuate underneath. This is another manner in which inflammation terminates, and is called Suppuration.

BUT if the pain, redness, and tension of the part increase, with the fulness of pulse and other febrile symptoms, at the same time that there is little change in the tumor, in point of size, there is then great reason to suspect, that Gangrene or Mortification will soon take place. Mortification first appears by a change of colour in the part, from a bright red to a leaden or livid cast, with small vesicles, containing a thin acrid serum dispersed over its surface; the pain abates, the pulse sinks, but continues frequent; the tumor at last loses its tension, turns quite black and flaccid, and so terminates in a real mortified or dead spot.

THESE

THESE are the several ordinary consequences of inflammation. By many authors, however, another disorder has been treated of as one of its terminations, *viz.* Schirrus. But although that complaint does perhaps, in some instances, succeed to inflammation, yet it is far from being a common consequence of it; so that, though inflammatory affections may justly enough be mentioned as one of the many exciting causes of Schirrus; yet the consideration of that disorder can never, with propriety, it is imagined, be introduced in a Treatise on Inflammation.

THE different appearances that in general occur in phlegmon, being thus pointed out, together with the manner in which they usually terminate; I shall now proceed to the consideration of the most frequent exciting causes of the disorder, together with that, which appears most probably to be the immediate or proximate cause, and shall conclude with the prognosis, and method of treatment, adapted to the several modes in which the disease is found to terminate.

§ 2. *Of the exciting and predisposing Causes of Inflammation.*

THE exciting causes of inflammation, are in general whatever tend to stimulate, or produce pain and irritation. Such as wounds of all kinds, whether simple, lacerated, or punctured, and, with whatever instrument they may be produced. Also bruises and burns, whether by the actual or potential cautery ; likewise all corrosive irritating applications, as the different strong accids, Cantharides and all the class of rubefacientia : Ligatures may likewise be mentioned, and tumors that act as ligatures and stimulants, on any of the blood vessels and nerves ; as also, violent exercise of any particular member, and cold applied to a particular part.

THESE are the most common external causes of phlegmon, but there are some others, which tend to the same effect, that are to be considered entirely as of an internal kind ; such are the different vitiated states of the fluids, excited by the presence of morbid matters of different kinds, as those of Lues Venerea, small Pox, Measles, and Scrophula. Fevers too that end in critical inflammations

mations and consequent abscesses, seem likewise to act in the same manner.

UNDER one or other of these heads, are comprehended, it is imagined, almost all the exciting causes of inflammation. It is not improper, however, here to observe, that there are other causes, which, with propriety, may be said to be of the predisposing kind ; as tending to produce such a state of the system, as renders it more susceptible of inflammatory complaints than naturally it ought to be. The most remarkable of these, is, a full plethoric habit of body, induced either by a very nourishing diet, or want of exercise ; or, perhaps, by a combination of both. These disorders too, are observed to be more frequent in young than in old people, and in men than in women.

§ 3. *Of the proximate Cause of Inflammation.*

VARIOUS opinions have been delivered with respect to the proximate cause of inflammation ; many of which, not having much probability to support them, have never been generally admitted, and others, after having prevailed for a time, have at last too been rejected.

THE doctrine on this subject, which for some years has prevailed at this University, as it readily accounts for the action of the several exciting causes of inflammation, for the effects of the disorder, and for the operation of the medicines had recourse to in the cure, will in future, therefore, be most probably considered as the proximate cause of all inflammatory affections.

FROM observing the different phenomena which occur in inflammation, an increased action in the vessels of the part affected, seems in every case evidently to take place ; and as from an increased action in the arteries of a part, all the circumstances of inflammation are easily explained, we are induced therefore, to consider such a state of the vessels as the proximate cause of the disorder.

THIS opinion, as already observed, is greatly supported, from a review of the several exciting causes of inflammation ; which being in general of an irritating or stimulating nature, their application to any living or sensible parts, must of course be always attended with a preternatural exertion of the vessels in such parts. Thus, to
reason

reason from analogy, we observe, that sternutatories applied to the internal membrane of the nose ; the aliments to the stomach and intestines ; and the blood to the internal surfaces of the vessels ; all serve as so many stimulants to action in these different parts ; and, in the same manner, corrosive or other irritating substances, when applied to the coats of the arteries, naturally in them produce the same effects as in other muscular organs.

IN this manner, we obviously account for the action of all direct stimulants in the production of inflammation. It frequently happens, however, that inflammation occurs when the application of stimulants, or irritating substances, cannot in any degree be suspected. In such cases, the increased action of the arteries, and of the heart, when it occurs, seems to be supported by a spasm or constriction of the extreme vessels, either of a particular part, or of the general system. And hence, from the known tonic or astringent power of cold, we account for the frequent occurrence of inflammatory affections, in our cold seasons of winter and spring ; and hence too, the throat and lungs are more especially sub-

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ject

ject to disorders attended with inflammation, from these parts being more particularly liable to the immediate action of cold.

Dr CULLEN, who considers spasm as the sole proximate cause of inflammation, when treating on this subject, says, “ That a spasm of the extreme vessels takes place in inflammation, is presumed from what is at the same time the state of the whole arterial system. In all considerable inflammations, though arising in one part only, an affection is communicated to the whole system; in consequence of which, an inflammation is readily produced in other parts besides that first affected. This general affection is well known to Physicians, under the name of *Diatheſis Phlogiſtica*. It most commonly appears in persons of the most rigid fibres; is often manifestly induced by the tonic or astringent power of cold; is increased by all tonic and stimulant powers applied to the body; is always attended by a hardness of the pulse; and is most effectually taken off, by the relaxing power of blood-letting. From these circumstances, it is probable, that the diathesis phlogistica consists in an increased tone, or contractility, and perhaps contraction

traction of the muscular fibres of the whole arterial system *.”

AN increased action in the vessels of a part, being admitted as the proximate cause of inflammation, we can pretty certainly ascertain the operation of the several predisposing causes ; and upon the same supposition may be explained the different symptoms which occur in the course of the disorder.

THUS the increased action of an artery, by forcing or propelling into the smaller sets of vessels, red globules, and other gross parts of the blood which they cannot easily transmit, very readily accounts for the redness, tumor, tension and throbbing pain that occur in every case of phlegmon. As likewise in some measure for the augmentation of heat, which, in such cases, always takes place, by the increased attrition that from such a cause must undoubtedly be produced. It is probable, however, that the accumulation of animal heat alone, which must necessarily arise from a larger proportion of blood being sent to a part, than what naturally it should receive,

* See First Lines of the Practice of Physic, p. 188.

ceive, will have a considerable influence in the production of an increased degree of heat.

THE method of cure, as already observed, tends also to confirm the general doctrine with respect to the cause. Thus the most effectual remedies, in almost every case of inflammation, are exactly such, as would be recommended for the removal of an increased tone in any particular part, were we convinced that that alone was the disease, *viz.* A low diet, blood-letting, with other weakning evacuations, together with emollient sedative applications; but this, when we come to speak more particularly of the different remedies, will more fully appear.

IN almost every case of external inflammation, except, perhaps, when it is very extensive, runs deep, and the different symptoms are all very violent, the *prognostic* should in general be favourable. For, if Resolution, which is the easiest termination of the disorder, is not effected, suppuration will most readily be the consequence, and the danger attending it in that state, if the constitution is otherwise healthy, is not commonly very considerable.

WHEN,

WHEN, however, the inflammed part is of any considerable extent, with the different local, and general symptoms of fever running high, a good deal of danger is then to be dreaded. For, independent of the risk to the constitution from the fever itself, if the symptoms continue violent for any length of time, without shewing some tendency, either to Resolution, or Suppuration, Gangrene will pretty certainly follow, and in what manner that may terminate, is always uncertain.

S E C T I O N II.

Of the Treatment of Inflammation by Resolution.

§ 1. *Resolution of inflammed Tumors, in some instances, not to be attempted.*

IN the treatment of phlegmon, the principal circumstance, in general, to be had in view, is its Resolution ; as being by much the safest, and most speedy method of cure. I have said, however,

however, only in general, as in some particular cases it is otherwise, and resolution by no means to be attempted.

THUS, inflammatory swellings, that occur in, or succeed to, fevers, and other internal disorders, ought always to be brought to suppuration ; for nature in that way, pointing out an exit for some superabundancy of fluids that exists in the system, it might probably be attended with danger to give her any interruption. It is, indeed, on the contrary, always in such cases the safest practice, to assist her as much as possible, by the use of such applications, as will most readily bring the swellings to suppuration.

THERE are other tumors again, from an internal cause too, in which it is perhaps best to do nothing at all, either with a view to resolve or suppurate, but just to leave them entirely to nature's management.

THUS in swellings of an inflammatory nature, that appear in scrophula, it might be dangerous to make use of repellent applications, at the same time that it is not often adviseable to promote

mote their suppuration; their cure, when opened either by nature or art, proving always very tedious and troublesome. And such swellings, it is well known, may remain for a great length of time, without any sort of risk to the patient; so that it is probably, in general, most adviseable never to meddle with them.

IN Lues Venerea too, as we are possessed of almost a certain antidote for the disorder; and as buboës, and other inflammatory swellings that occur in it, are always, when opened, exceedingly troublesome, and very difficult of cure, it is perhaps for these reasons, the most prudent practice, always to endeavour their discussion. And that more especially, as their being brought to suppuration, can by no means free the patient from the disorder, but leaves him, on the contrary, under as great a necessity of undergoing a mercurial course, as if no evacuation from the tumor had taken place.

IN cases of Erysipilas likewise, which is a species of inflammation, but which is easily distinguished from real phlegmon, by the colour of the inflamed part not being of such a bright red, but
having

having a more dark copper-like appearance ; and by any swelling that occurs in it, not rising evidently into a tumor, but being rather diffused, and ending as it were imperceptibly upon the surrounding parts. In such cases, it appears always to be the best practice, to attempt their dissolution, as when swellings of that nature come to a suppuration, they never either afford good pus, nor heal kindly when opened.

So that, the only cases, in which we should not attempt the resolution of inflammatory swellings, are such, as are either of a scrophulous nature, or as appear to be evidently critical in some disorder ; and that, whether in fevers or internal disorders of even a chronic nature. But whenever the exciting cause has been of an obvious external kind, and especially, when the complaint is not as yet far advanced, we may then always proceed with safety and freedom in what is termed the Repelling Method.

§ 2. *Of the Remedies to be had recourse to for the Resolution of an inflamed part.*

IN incipient cases of phlegmon, when the symptoms are not so violent as to have affected the
general

general system, topical remedies merely, with a due attention to regimen, often answer in resolving them. But when, on the contrary, the inflammation runs high, with general symptoms of fever, it then becomes necessary, at the same time, to pay attention to these.

IN every case of phlegmon, it has commonly been the prevailing practice, to have recourse to warm fomentations and cataplasms; but as warm emollient applications of all kinds, have the most powerful influence, in promoting suppuration, as will hereafter be more particularly taken notice of, and as is allowed indeed by every practitioner; the use of such remedies, while the resolution of swellings is practicable, must, therefore, it is evident, be attended with very great impropriety.

THE first circumstance to be attended to, in every case of phlegmon, when resolution of the tumor is to be attempted, is the removal of all such exciting causes of the disorder, as may happen to present themselves. Such as, extraneous bodies in wounds; pieces of fractured bones; luxations; and, in short, whatever may appear

to have had the least tendency in keeping up the inflammation.

OF all the various applications for an inflamed part, those of a sedative nature are chiefly to be depended on; and next to these emollients.

OF the former kind, are considered, all the different preparations of lead dissolved in vinegar; and it is imagined too, that the vegetable acid by itself, likewise acts in the same manner.

As emollients, all the bland expressed oils are often used with advantage; as also ointments of soft consistencies made with any of these and pure wax.

§ 3. *Remarks on the Preparations of Lead, and other sedative Applications.*

IT is not, in any part of this Dissertation, proposed to enter into minute discussions, on the *modus operandi* of such medicines as are recommended, as that would not only extend the length of it much farther than is intended; but to many, would probably appear
very

very superfluous. It may not, however, in some circumstances be improper, to deviate so far from the general plan, as to render as obvious as possible, the propriety of what at any time may be advanced; for mere practical assertions, without at least some foundation in reason, can never, it is imagined, prove either an useful, or an agreeable mode of communication.

WITH respect to the use of sedative applications, in cases of external inflammation; it is not by any means intended, to recommend, universally, the whole class of medicines, that, in different circumstances, are found to be of that nature.

THUS opium, though one of the most powerful of all sedatives, yet, as its external application to the human body, is always attended with some degree of irritation, however useful it may at times have been found, in some particular species of inflammatory affections, it will never probably, as an external application, become of general use in such disorders.

WARM emollient fomentations too, though they no doubt are very powerful sedatives, as tending, from their nature, more effectually to remove tension and pain, than perhaps any other remedy we are acquainted with; yet, from a great deal of experience of their effects, in different local inflammations, I have long been convinced, that when the resolution of inflamed tumors is wished for, such applications are always very improper. As they constantly either tend to bring swellings of that nature to suppuration, that might otherwise have probably been dissolved; or, when not attended with that effect, occasion such a relaxed state of the parts, as renders the thorough removal of the disorder always exceedingly tedious.

UPON a proper examination of all the different articles said to be of a sedative nature, similar exceptions, to their use in inflammatory cases, might perhaps be found to the greatest part of them.

So far, however, as my experience goes, together with that of many others of this country, as well as of Mr Goulard and other French practitioners,

practitioners, no such reasons have ever occurred against the use of lead and its preparations in such cases. On the contrary, indeed, it may be certainly affirmed, that, as discutients in inflamed tumors, they prove more serviceable by much than all the ordinary applications, to which, so far as I know, recourse has ever been had.

AND, although Mr Goulard, in setting off a favourite remedy, has been induced to assert its influence to be more general, and more considerable, than it probably will ever be found to be ; yet still the world is much indebted to him, not, however, for a *new* medicine, as every preparation of lead, recommended by him, was formerly, in some form or other, known to every practitioner ; but for introducing, to a *more general* use, a very effectual remedy, for the discussion of inflammatory swellings.

As to the preparations of lead, being here said to be of a sedative nature ; the term, it is imagined, is far from being improperly employed ; and that, not only from many of the more striking effects of lead, when taken internally, being all evidently of a sedative tendency, but, from
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its immediate and obvious operation, when applied externally to an inflamed part: Which, when the preparation is of a proper strength, is almost constantly an abatement of the different symptoms of pain and tension, at the same time that there is communicated an agreeable soothing sensation to the part.

HAVING likewise, to a certain degree, in particular circumstances, observed the same effects from the vegetable acid, it could not, it was imagined, be so properly taken notice of under any other head.

Mr GOULARD, in his dissertation upon the external use of the preparations of lead, recommends them as almost equally proper in every stage of inflammation. Even when tumors have come to a full suppuration, a proper use, he says, of his *Extractum Saturni*, not by its repelling quality, for he will not allow it to be possessed of such, but by its occasioning an exudation of the contained matter, renders it almost always unnecessary to open them.

THE same remedy is likewise mentioned by him as a proper application in every case of Gangrene. From my own experience, however, of the preparations of lead, I cannot take upon me to recommend them in either of these cases. I have indeed made trial of them in gangrenous cases, but without any evident effects either one way or another ; and, however strongly recommended by Mr Goulard, in the cure of abscesses or collections of completely formed pus, I must own, that, in that state of the disorder, I never did think of having recourse to them. So that it is in the real inflammatory state of the complaint only, and while a cure by discussion is still expected, that such applications are here meant to be advised.

FROM the known deleterious effects of lead, when introduced into the system ; an objection has, by some authors, been raised against a free use of the preparations of lead, even externally applied.

THAT lead, in different forms, has, when taken into the constitution, frequently proved poisonous, there is no reason to doubt, and that,
in

in some particular instances, disagreeable symptoms have occurred, where some of the preparations of lead have been externally used, is also pretty certain. That such bad symptoms, however, if they were not merely accidental from some other cause, are at least in general, very rare effects of the remedy in question, I can venture, I think, certainly to affirm. For, so far as I have had occasion to employ the preparations of lead, and, in many cases, particularly of burns, I have known the greatest part of the whole surface of the body covered with them for days, nay, even for weeks together; and I do not recollect a single instance of any disagreeable symptom accruing from them.

OF all the preparations of lead for external use, *Saccharum Saturni* is perhaps equal, if not superior to any, as it has all the advantages of the others, with this difference, that, in it, we are much more certain of the exact strength of our preparation, than we ever can be with any other. For although, in the *Extrait de Saturn* of Goulard, as likewise in the *Acetum Lythargites* of our Dispensatories, which are both, it may be observed, very nearly the same; we may be very cer-
tain

tain of the quantity of lead employed to the vinegar, yet we can never, but by crystallisation, know exactly, or even nearly, how much of the former the Menstruum may have dissolved, as that must depend upon a variety of accidents; and particularly, on the strength of the acid, and exact degree of heat employed, which are circumstances we have not always in our power exactly to regulate. For these reasons, therefore, the salt, or sugar of lead, as it is called, should, for external use, be always preferred.

THE best mode of applying the remedy, seems to be in the form of a watery solution; for the preparation of which, the following proportions, in general, answer very well:

Rx. Sacchar. saturn. unc. fs.

Solve in acet. pur. unc. iv.

Et adde aq. fontan. destillat. lb. ii.

THE addition of vinegar, renders the solution much more complete, than it otherwise would be; and without it, indeed, a very considerable proportion of the lead generally separates, and falls to the bottom.

IN making use of this solution, in cases of inflammation, as it is of consequence to have the parts affected kept constantly moist with it, cataplasms prepared with it, and crumb of bread, in general answer that intention exceedingly well. But, when the inflamed part is so tender and painful, as not easily to bear the weight of a poultice, which is frequently the case, pieces of soft linen, moistened with the solution, answer the purpose tolerably well : Although, when there is not that objection to the use of cataplasms, as they retain the moisture longer, they should always be preferred. But which ever of the two are had recourse to, they should always be applied cold, or, at least, with no greater warmth than is merely necessary for preventing pain or uneasiness to the patient ; they should be kept almost constantly at the part, and renewed always before turning stiff or hard.

AMONG the remedies recommended for external use, in cases of inflammation, were mentioned, emollients. These, when the tension and irritation on the skin are considerable, are often attended with very great advantage ; the parts affected, being, in such a state of the disorder,

order, gently rubbed over with any of the mild expressed oils, two or three times a-day, the tension, irritation and pain, are often very much relieved, and the discussion of the tumor thereby greatly promoted.

IN every case of inflammation, indeed, emollient applications would afford some relief; but as the preparations of lead already recommended, prove in all such disorders, still more advantageous; and as unguents of every kind, tend considerably to blunt the action of lead, these two sets of remedies, should as seldom as possible, be allowed to interfere with one another; and emollients should accordingly, never be prescribed, but when the circumstances already mentioned, of irritation, tension and pain, are so considerable as to render their application altogether necessary.

UNCTUOUS substances, have too been condemned in such cases, upon a different principle; as tending to stop the pores, and, consequently, to obstruct the perspiration of those parts to which they are applied. It is not, however, probable, that in this way they could prove very hurtful in
preventing

preventing the resolution of inflammation; which must always, it is imagined, be effected in a very different manner than by perspiration.

WHEN the part affected with inflammation, is not very tender, or lies deep, applications of the vegetable acid, are then often had recourse to with considerable advantage; and the most effectual form of using it, seems to be by way of cataplasin, made with the strongest vinegar and crumb of bread. In such cases too, I have sometimes thought, that an alternate use of this remedy, with the saturnine solution, as formerly recommended, has produced more beneficial effects, than are commonly observed from a continued course of any one of them.

AT the same time that these applications are continued, bleeding with leeches, or cupping and scarifying, as near as possible to the part affected, is generally of very great service; and in no case of local inflammation should ever be omitted. In all such cases, the whole body, but more especially the diseased part, should be preserved as free as possible from every kind of motion; and the necessity of a low cooling diet, in
every

every inflammatory disorder, appears very obvious, as does also a total abstinence from spirituous and fermented liquors.

IN slight cases of inflammation, a due perseverance in the several articles taken notice of, will, in general, be found sufficient for every purpose. But, when there is likewise, a full, hard, or quick pulse, with other symptoms of fever, general blood-letting becomes then always necessary; the quantity of blood taken away, being always to be determined by the violence of the disorder, and by the age and strength of the patient. The use of gentle laxatives too, together with cooling diaphoretic medicines, are always attended with very good effects.

THESE different evacuations being premised, the next object of consequence, is to procure ease and quietness to the patient; which is often, in inflammatory cases, of more real service than any other circumstance whatever. The most effectual remedy for this purpose is opium; which, when pain and irritation are considerable, as in extensive inflammations very frequently happens, should never be omitted. In large wounds,

wounds, especially after Amputations and other capital operations ; in punctures of all kinds too, large dozes of opium are always attended with remarkable good effects. In all such cases, however, opium, in order to have a proper influence, should, as was observed, be administered in very large dozes ; otherwise, instead of proving serviceable, it seems rather to have the contrary effect ; a circumstance, which is perhaps the chief reason for opiates in general, having been very unjustly condemned in every case of inflammation,

By a proper attention to the different circumstances taken notice of, in the course of three or four days, and sometimes in a shorter space of time, resolution of the tumor will in general begin to take place. At least, before the end of that period, it may, for the most part, be known how the disorder is to terminate. If the heat, pain, and other attending symptoms abate, and especially if the tumor begins to decrease, without the occurrence of any gangrenous appearances, we may then be almost certain, that, by a continuance of the same plan, a total resolution will in time be effected.

BUT,

BUT, on the contrary, if all the different symptoms rather increase, and especially, as formerly remarked, if the tumor turns larger, and somewhat soft, with an increase of throbbing pain, we may then with tolerable certainty conclude, that suppuration will take place : And should, therefore, immediately desist from such applications as were judged proper while a cure was thought practicable by resolution ; and endeavour to assist nature, as much as possible, in the formation of pus, or what is called *Maturation* of the Tumor.

FOR this reason, in every case of inflammation, the different evacuations, especially that of blood-letting, which may have been adviseable while the swelling was attempted to be dissolved, should never be carried a greater length than may be merely necessary for *moderating* the several febrile symptoms. For, by reducing the system too much, and a suppuration afterwards taking place, its progress in that case, becomes always much more slow, and uncertain, than it would have been had a due attention been paid to these evacuations ; nor will the patient be afterwards so able to bear, especially if it is considerable,

siderable, the discharge that must necessarily ensue from opening the abscess.

ALTHOUGH it was remarked above, that if, in general, in the course of three or four days, there does not some appearances of resolution occur, that suppuration will most probably take place; and that consequently, a change of treatment becomes necessary; yet this, it must be observed, is only to be taken in a limited sense. For the time of desisting from one mode of treatment and commencing the other, must always depend very much on the seat of the inflammation; such disorders being in some parts much more apt to terminate in a speedy suppuration than in others.

THUS, in the cellular membrane, and in different soft parts, inflammatory disorders of all kinds terminate much more readily and quickly, than when any of the tough membranous parts are affected. Hence, in the coats of the eye and of the testicles, very violent inflammations often continue for many days, nay, even for weeks, without either abating in the symptoms, or ending in suppuration. In such cases, therefore, that

go on to even a very considerable length, we need not be afraid of continuing the discutient applications for a much longer time than what, in general, would otherwise be proper : And should never, therefore, be deterred from using them, unless either an evident suppuration has taken place, or there appears, from the violence of the symptoms, a certain risk, either of Gangrene, or of some incurable obstruction. In which event, we are no doubt, always to endeavour at procuring the suppuration of the tumor.

S E C T I O N I I I .

Of S U P P U R A T I O N .

§ 1. *General Remarks on Suppuration.*

BY the term *Suppuration*, in general, is understood that process, by which the contents of tumors and ulcers are converted into a whitish, thick, opaque, somewhat foetid matter,

G termed

termed *Pus*. This, by many, has been considered as effected by a natural exertion of the system; but art undoubtedly can, in all such cases, afford a great deal of assistance. Before going on, however, to consider the necessary treatment for that effect, it will not be improper to examine attentively, the different opinions that have been offered with respect to Suppuration; and the more especially, as it will tend considerably to elucidate many of the observations that will afterwards occur.

§ 2. *Of the Formation of Pus.*

By many authors, Pus has been imagined to consist in a dissolution of the blood-vessels, nerves, muscles, and other solids, in the fluids of the parts in which inflammatory tumors occur.

THIS is the opinion of Boerhaave *, Platner †, and many others.

OTHERS, again, have supposed purulent matter to be formed in the blood; and that it is secreted,

* Aphorism, 387.

† V. *Institutiones Chirurgiæ*, § 54, &c.

creted, in its complete state, into Abscesses, Wounds, and Ulcers.

THE first of these opinions, seems sufficiently confuted from this consideration, that very extensive wounds and ulcers continue often for a great length of time, without being attended with any loss of substance ; which they necessarily always would be, if their several discharges consisted in a dissolution of the solids of the parts on which they were situated. Issues too, afford instances of the same kind, yielding, for a number of years, even a daily discharge of pus, without producing any evident alteration whatever in the state of the solids.

THE other opinion has probably arisen from abscesses being sometimes observed to form suddenly, and without any evident previous inflammation ; so that the matter contained in them has been supposed to be at once deposited from the blood in its purulent state.

PREVIOUS, however, to the formation of pus in any part, if due attention was given, some degree of inflammation, it is probable, would be
always

always observed : But as inflammation, in many cases, occurs in only a very slight degree, and without being attended with much pain ; it may often, very readily, have proceeded to the state of suppuration, without being sooner observed by the patient ; and this we know, in internal abscesses especially, is not unfrequently the case. We are told, indeed, of very quick translations of matter, from one part of the body to another ; but if such instances do ever occur without the intervention of inflammation, which is, however, much to be doubted ; yet, still, it is no material objection to our argument, as such cases can never be considered in any other light, than as *particular*, and very *unusual* exertions of the system.

It may be remarked also, that if purulent matter frequently existed in the blood, as it undoubtedly would do, if the opinion now under consideration was well founded ; in some cases, at least, it would surely have been liable to detection ; but no matter of that kind has, it is imagined, ever yet been discovered in it. Such pus too, as is found in wounds and ulcers, would not at first appear thin and serous, as it always
does,

does, if deposited, completely formed from the blood.

THE most probable opinion, hitherto advanced, with respect to the formation of pus, is, that it is a change produced by a certain degree of fermentation, upon the ferous part of the blood, after its secretion into the cavities of ulcers and abscesses; and that in consequence either of the natural heat of the part, or of heat artificially applied.

THAT it is the serum only of blood, which is proper for the formation of pus, and that it is produced by a certain degree of heat, was first rendered exceedingly probable, by an experiment of Sir John Pringle's*; and was afterwards fully confirmed by several others of the same nature, made by Mr Gaber, and related by him at full length in the second Volume of the *Acta Taurinensia*.

Sir JOHN PRINGLE found, that pure serum, kept for some days in a furnace, regulated to the human heat, after becoming turbid, dropped a
white

* Appendix to Diseases of the Army, experiment xlv.

white purulent sediment. The crassamentum of blood, in the same space of time, and degree of heat, changed from a deep crimson, to a dark livid colour; so that when any part of it was mixed with water, it appeared of a tawny hue. Serum, digested with a few red globules, and in the same circumstances, was of the same colour.

Mr GABER's experiments, as already observed, all tend to elucidate and corroborate the same opinion, *viz.* That laudable pus is formed only from serum. The addition of red globules to serum, and crassamentum digested by itself, exhibited much the same appearances, as those lately quoted from Sir John Pringle*. Fat, which is thought by many to be a principal ingredient in the composition of pus, was found by Mr Gaber, when exposed to the above-mentioned trial, to exhibit no appearances of that matter; nor were any of the fleshy parts, digested either with serum or water, convertible into it.

FROM all which, it may be concluded, that the addition of any of these articles to serum,
instead

instead of rendering it capable of producing good pus, have always the very contrary effect ; and that it is pure serum alone, from which that matter can be obtained.

It may here be remarked, once for all, that what is meant by *pure serum*, is not that finer halitus, which, in a healthy state of the body, is constantly secreting into the different cavities, merely for the the purpose of lubricating, and keeping them moist ; and which is again generally absorbed ; but is a serous fluid of the same nature with that which separates spontaneously from blood, upon that fluid's being allowed to remain at rest, on being discharged either from an artery or a vein. And in which, though there is never supposed to be any mixture of red globules, yet, there is certainly always more or less of the coagulable lymph ; some proportion of which seems absolutely necessary for serum to be possessed of, to render it capable of producing pus.

THE several effects already mentioned, produced by digestion upon serum out of the body, will very readily occur, it is imagined, from the
same

same causes applied to it, when collected in the cavities of ulcers and abscesses ; and, from the result of the different experiments alluded to, it is probable, that according as it is there deposited more or less free from mixture of fat, red globules, and other substances, it will yield pus of a more pure or vitiated nature.

THIS account of the formation of pus, is the most satisfactory, it is conceived, of any that has as yet been given ; and the more especially, as it renders evident, as will afterwards appear, the operation of all the remedies commonly found most effectual in promoting suppuration.

§ 3. *Of the necessary Remedies for promoting Suppuration.*

FOR the different reasons formerly taken notice of, suppuration of the inflamed part being at last resolved on ; all the remedies then enumerated, upon the supposition of a cure being to be obtained by resolution, must immediately be laid aside.

No farther evacuations, as was observed, are to be admitted, and if the patient has already
been

been much weakened, a full allowance in point of diet, and even a proportion of wine, may probably be necessary.

FOR, although a very violent degree of inflammation, is always unfavourable to suppuration, as tending either to Gangrene, as will afterwards be taken notice of; or, as tending to propel into the cellular membrane, which, in general, is the seat of abscesses, a quantity of red globules, together with the serum of the blood, which last, from what has been already remarked, should alone be extravasated for the purpose of forming good pus; yet, in order to have a due quantity of serum secreted, for the purpose of suppuration, and, at the same time, to have its fermentation properly carried on, the different inflammatory symptoms must never be allowed to fall suddenly; otherwise an abscess of very ill digested matter, as it is termed, will most probably be produced.

THUS we find in small pox, which are so many small phlegmasiæ, that a proper suppuration never takes place, if the patient has been much reduced by any considerable evacuations; and the

same thing very certainly occurs in similar circumstances, in abscesses of a larger size.

THE patient should, therefore, be kept in a proper medium, not allowed to live so fully as to run any risk of raising the inflammation too much; nor to be so reduced, by evacuations and a low diet, as to induce the contrary extreme. Having, in this manner, endeavoured to procure a discharge into the cellular membrane of serum, proper for the formation of pus; the next circumstance to attend to, is, that a due fermentation be excited, and preserved in it, so that its progress towards perfect maturation, may go easily and regularly on.

THIS indication is chiefly effected by the use of such applications as tend to preserve a proper and constant degree of heat in the part, in so much, that it seems probably owing to a want of attention to this circumstance, that by much the greatest part of all the softer swellings do not come to suppuration; and that, according to the degree of heat they are kept in, whether from the proportion of inflammation they are at first produced by, or from the natural heat of the

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the part they are seated in, they form into tumors of melicerous, steatomatous, and other consistencies. For unless, a due degree of heat be applied and continued, serum being merely extravasated, will never produce pus; hence in ascites, and other dropical disorders, large quantities of it remain in that state for a great length of time, without any suppuration taking place, and that merely from such collections being produced without any inflammation at first, so that no assistance is afforded from any degree of *preternatural* heat; and the *natural* heat of such parts, as serous collections usually occur in, is seldom considerable enough for such an effect.

THE just degree of heat for the promotion of suppuration, is not perhaps easily to be determined; but the more considerable it is, at least to a certain extent, the more quickly, it is probable, pus will be formed.

THIS we find, indeed, from Mr Gaber's experiments, is so far the case *, and the observation is

* When speaking of pus being formed in, and subsiding from serum digested in a degree of heat equal to that of the human body, Mr Gaber says, "Eo autem citius subsidebat, quo calor erat major." *Loco citato.*

is likewise confirmed by daily experience, in every case of phlegmon, where the tumor *cæteris paribus* always proceeds quickly or slowly to suppuration, as it is seated near to, or at a distance from the heart. Hence, in any of the extremities, particularly in the legs, inflammatory disorders are always very dilatory in proceeding to suppuration, while those of the trunk, and about the head, go on very quickly: Thus, in many cases of inflammation of the ears and throat, it is far from uncommon their arriving at a thorough maturation, and even bursting of themselves, in the course of forty-eight hours from the first attack.

THIS consideration, therefore, should make us particularly attentive to the preservation of a due degree of heat in every inflamed part, intended to be brought to suppuration; but more especially in situations very distant from the heart, where artificial heat is most wanted, and where, by a proper application of it, almost every tumor, though situated on the extremities, might probably be induced to suppurate in the same space of time with those in the ears, and other parts lately taken notice of.

I AM not only convinced, by experience, of what is here asserted, of the very singular advantages to be obtained from a due attention to this matter ; but also, from several experiments made upon the same subject some years ago : But as they turned out almost exactly similar to those related by Mr Gaber, such attention was not given in preserving the different results of them as otherwise should have been ; this, however, is particularly remembered, that in a heat equal to 100° of Farenheit's Thermometer, the deposition of matter from serum took place, in little more than half the time that was requisite for the same effect at even eighty degrees.

IT was the prosecution of these experiments, I must acknowledge, that first suggested to me the probability of the great advantages to be derived from the preservation of a due degree of heat in inflamed parts ; and I have accordingly, on many occasions since that time, found the treatment of such cases go on much more easily than otherwise I should either have expected, or have been able to account for.

THE method commonly had recourse to, for the application of heat to an inflamed part, is by means of warm fomentations and cataplasms; and when these are regularly and frequently renewed, nothing, it is probable, could more effectually answer the purpose. But, in the ordinary manner in which they are applied, by the cataplasms being renewed only once, or, at most, twice a-day, they must always, it is imagined, do more harm than good. For, so soon as the degree of heat they were at first possessed of, is dissipated, the moisture kept up by them, with the consequent evaporation that ensues, must always render the part a great deal colder than if it had been merely wrapped in flannel without the use of any such application.

IN order to receive all the advantages of such remedies, the part affected should be well fomented with flannels pressed out of any warm emollient decoction, applied as warm as the patient can easily bear them, continued at least half an hour at once, and renewed four times a-day.

IMMEDIATELY

IMMEDIATELY after the fomentation is over, a large emollient poultice should likewise be applied warm, and renewed every second or third hour at farthest. Of all the forms recommended for emollient cataplasms, a common milk and bread poultice, with a proportion of butter or oil, is perhaps the most eligible; as it not only possesses all the advantages of the others, but can at all times be more easily obtained.

ROASTED onions, garlick, and other acrid substances, are frequently made use of as additions to maturing cataplasms: When there is not a due degree of inflammation in the tumor, and when it appears probable, that the suppuration would be quickened, by having the inflammatory symptoms somewhat increased, the addition of such substances may then be of service; but when stimulants *are* necessary, in such cases, a small proportion of strained galbanum, or of any of the warm gums, dissolved in the yolk of an egg and added to the poultices, is not only a more elegant, but a more certain form of applying them.

WHENEVER

WHENEVER the inflammation, however, is in a proper degree, such stimulating substances never can be necessary ; and, from the different observations already thrown out, in many cases, it is apprehended, they may even do mischief.

IN such tumors as from their being possessed of little or no inflammation, are commonly said to be of a *cold* nature, as they are generally indolent and proceed very slowly to suppuration, plaisters composed of the warm gums, are often had recourse to with considerable advantage ; in such cases, they are not only of use by the stimulus and irritation they occasion, but by the heat which they tend to preserve in the part. They become particularly necessary, when the patient, by being obliged to go abroad, cannot have cataplasms frequently enough renewed, or so conveniently applied ; but when some such objection does not occur, the latter, for very obvious reasons, should always be preferred.

DRY cupping, as it is termed ; that is, cupping without the use of the scarificator, upon, or as near as possible to the part affected, is frequently had recourse to with advantage, in promoting

neath, is, upon pressure, very evidently discovered. Sometimes, indeed, when an abscess is thickly covered with muscular and other parts, and when, from concurring circumstances, there can be little doubt of there being even a very considerable collection of matter, yet the fluctuation cannot be readily distinguished; but is not *often* so very deeply lodged, but that, with proper attention, it may be discovered.

THIS, however, is a circumstance of the greatest consequence in practice, and deserves, it may be remarked, more attention than is commonly given to it. In no part of the Surgeon's employment, is experience in former similar cases, of greater use to him than in the present; and however simple it may appear, yet nothing more readily distinguishes a man of observation and extensive practice, than his being able easily to detect collections of deep seated matter: Whilst nothing, on the contrary, so materially affects the character of a Surgeon, than his having, in such cases, given an inaccurate or unjust prognosis; as the event, in disorders of that nature, comes generally at last to be clearly demonstrated to all concerned.

TOGETHER

TOGETHER with the several local symptoms of the presence of pus, already enumerated, may be mentioned the frequent shiverings that patients are liable to on its first formation ; these, however, seldom occur so as to be distinctly observed, unless the collection is considerable, or seated internally in some of the viscera.

§ 4. *Of Abscesses, and the proper period for opening them.*

IN the treatment of abscesses, it is a general rule not to open them till a thorough suppuration has taken place ; as, when laid open long before that period, and while any considerable hardness remains, they commonly prove more troublesome, and seldom heal so kindly.

IN some cases, however, it is necessary to deviate from this general rule, and to open them a good deal sooner ; particularly in all such critical abscesses as occur in malignant fevers. In the plague too, we are commonly advised to open such tumors, so soon as they are at all tolerably advanced, and not to wait till they are fully matured ; as, from experience in these disorders,
it

it is found to be of more consequence, for the removal of the original disease, to have a quick discharge of matter produced, than any harm the patient can ever suffer from having a swelling somewhat prematurely laid open.

IN abscesses too, situated on any of the joints, or upon either of the large cavities of the breast and abdomen, and more especially when they seem to run deep, they should always be opened as soon as the least fluctuation of matter is discovered. For, when the resistance is on every side equal, they just as readily point internally as outwardly ; and the consequence of a large abscess, bursting into either of the larger cavities especially, is well known most frequently to prove fatal : An instance of which, in the following case, I had sometime ago an opportunity of observing, which, with very little attention, might have been prevented.

A SURGEON of eminence, and of very extensive practice, was applied to by a young healthy-looking man, with a large abscess upon the left side of his chest. A fluctuation of a fluid was, upon pressure, very evidently discovered ; and it
was

was agreed, by other two practitioners that were present, that an opening should be made to give vent to the matter. But the operator, being much engaged in business, could not fix on an earlier period for doing it than the third day from the patient's first applying to him; unluckily, however, the patient died suddenly in his bed the night before the abscess was to have been opened.

ON examining the body, the tumor had disappeared entirely, without any external opening being observable; and, on opening the Thorax, it was found to have burst inwardly upon the lungs, and so had produced immediate suffocation.

IN every other circumstance, however, except in the cases alluded to, the rule in opening abscesses, is, as already observed, to allow a thorough suppuration to take place, before any vent whatever be given to the matter; and it being then determined to lay the collection open, the next question that occurs, is with respect to the manner of doing it.

§ 5. *Of the different Methods of opening Abscesses.*

Two different methods of opening abscesses have been recommended by authors, *viz.* by Caustic, and Incision. To the former, however, there are many objections: It is not attended with any superior advantage to a simple incision; upon a tender inflamed part, it gives much more pain; it is more slow in its effects; and the Surgeon never has the command of it so entirely as to destroy those parts he would incline, and no more; for all the different kinds of caustic, notwithstanding the greatest attention, will sometimes spread farther, and penetrate deeper, than was either wished for or intended. Of this, some years ago, I saw a very remarkable instance, and in such a situation too, as might be imagined it would be more unlikely to happen in than in almost any other.

CAUSTIC was applied to the anterior part of the Scrotum, with a view to a radical cure, in a case of hydrocele; but whether there had been very little water collected, or an adhesion of the *testis* to the *tunica vaginalis*, had, at that part, by some cause or other, been produced, is uncertain;

tain ; but the caustic penetrated to the body of the testicle, and gave the patient, as may readily be imagined, a great deal of very excruciating pain. It did, to be sure, produce a cure, but the risk of such an accident happening, although it probably might not frequently occur, is, I should imagine, a very strong objection to the use of caustic in all such cases ; and it is now indeed very generally, I believe, laid aside, and the preference justly given to the scalpel.

WHEN tumors are not very large, they are commonly opened by a longitudinal incision with a lancet or scalpel, made so as to terminate at the most depending part of the swelling, and of such a size as may seem sufficient for giving a free discharge to the matter ; about two thirds of the length of the tumor, is, in such cases, generally reckoned fully enough.

WHEN abscesses, however, are of any considerable extent, they are commonly laid open thro' their whole length ; and when the teguments have been greatly stretched, it is advised by many, to take part of them away altogether. But, this is a practice, which seldom or perhaps never

ver ought to be followed, as there are scarce any abscesses ever so large, as to destroy entirely the tone of the parts ; and so long as any contractile power remains in a part, there is still hopes of its again recovering its former dimensions.

THESE are the several modes of opening abscesses by the scalpel ; there are different inconveniencies, however, found to attend all of them ; and particularly, that so soon as an incision is made into a tumor, the whole contained matter is discharged suddenly and at once : Whereby when the collection is considerable, faintings and other disagreeable symptoms are frequently induced ; and what, in all large swellings especially, is constantly attended with very bad effects, a free admission of air is thereby given to a great extent of ulcerated surface.

THE bad effects of air on every species of sore, is well known to every practitioner ; but its pernicious influence, on a newly opened abscess, is often really astonishing. It first occasions a total change in the nature of the matter, from perhaps a very laudable pus, to a thin ill digested sanies ; and afterwards brings on a quickness of pulse,

pulse, debilitating sweats, and other symptoms of hectic fever, which, in a short time, generally ends in the patient's death, or in the production of a real phthisis, which at last terminates so.

THIS I have, in a great many instances, had occasion to observe; and that, in such cases, it is the admission of air alone, which produces all these bad symptoms, there is no reason, I think, to doubt. It appears, indeed, to be evidently so, from this circumstance, that of a great number of patients, who have laboured under such disorders, many have remained for a very considerable time, with large abscesses fully formed, without having any one symptom of hectic whatever: But whenever they were larger, than a very ordinary middle size, I never knew a single instance of their being opened by a large incision, without almost every symptom of hectic taking place; and that generally in less than forty-eight hours from the time of their being laid open.

How the admission of air to an abscess, should have such a powerful and sudden effect, is perhaps difficult precisely to determine. The irrita-

tion produced by it, on a large extent of ulcerated surface, may probably be one reason; by acting as a stimulus, on the extremities of the different absorbents that open into the fore, it may, in that manner too, occasion a larger absorption of matter into the system, than otherwise would take place; and it may likewise, by rendering the matter more putrid than before, render even the same quantity absorbed, more active in producing the different symptoms of hectic.

THAT this conjecture is well founded, with respect to an increase of putrescency being one of the principal effects of the admission of air to fores, is, from different circumstances, at least, exceedingly probable. For, in the *first* place, although the discharge from abscesses is commonly mild, and free from any disagreeable foetor, on their being newly laid open; it almost constantly becomes thin, acrid, and more foetid in the course of a few dressings, which is a certain proof of a greater degree of putrescency having then taken place. On this principle too is accounted for, the operation of many of the remedies usually had recourse to for the cure of fores; and more especially of that powerful antiseptic

tesepctic fixed air, which by many has been so much extolled of late.

WE know from experiment likewise, that every other substance, as well as the serum of blood from which pus is formed, is rendered putrid, and more quickly so, by the admission of air, than otherwise, in the same circumstances, they probably ever would be.*

FROM these considerations, therefore, the greatest caution appears to be necessary, for preventing, as much as possible, the admission of air to the internal surface of every collection of matter; and this, we may remark, is very easily and effectually done, by opening abscesses, by the introduction of a seton or cord, instead of having recourse either to caustic or the scalpel.

THIS method of discharging the contents of tumors, by the introduction of a cord, is attended with every advantage of that by incision; it, moreover, empties the swellings of whatever size they may be, not suddenly, but very gradually; it effectually prevents a free admission of air; it

* V. Sir John Pringle's, and M. Gaber's Experiments on this subject. Loc. cit.

it is not commonly attended with near so much pain and inflammation ; nor is the cicatrix occasioned by it, ever inconvenient or unseemly, which it frequently is, after a large incision.

IN the Royal Infirmary here, large abscesses, as well as those of a smaller size, used formerly to be opened in the usual manner, by extensive incisions ; the consequences were exactly, as already related ; many of the patients being thrown into such obstinate hectic fevers, as they never recovered from ; and others, though they did get better at the time, yet, by being greatly debilitated, were generally seized with other disorders, from which they seldom entirely recovered.

SINCE the seton, however, came to be generally used in such cases, few or no such disagreeable circumstances have occurred ; many of the largest tumors have been opened in that manner, and when the patients were otherwise in good health, they always did well ; and, with this additional advantage, that a cure has commonly been obtained in little more than half the time usually

usually found necessary, when a large incision has been had recourse to.

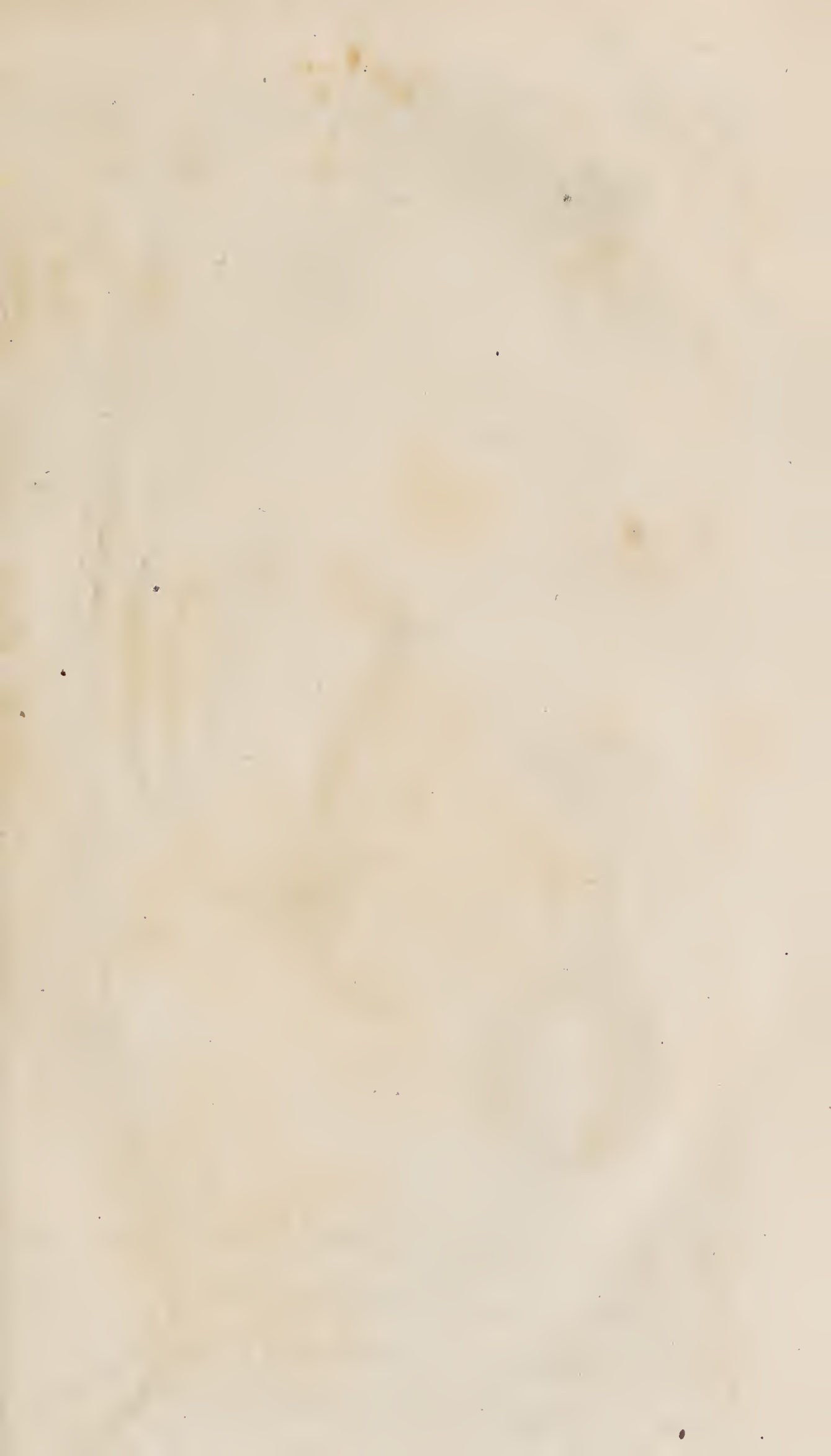
OPENING abscesses, by the introduction of a seton, has been taken notice of by different authors, and, in small collections of matter, has by many surgeons been frequently practised; but the practice was never probably carried to such an extent, as it has been here within these last twenty years, both in the hospital, and, in private, by individuals. And, in justice to Mr James Rae, surgeon in this place, it must be acknowledged that we are chiefly indebted for it, to his recommendation; he having first practised a general use of setons in such cases, at the same time that he invented a set of instruments, by which they are easily and safely inserted in almost every case of abscess, however deep seated, and among whatever parts they may run. So that there can be no objection to the practice, from the neighbourhood, either of large blood vessels, nerves, or tendons, which otherwise there no doubt would be.

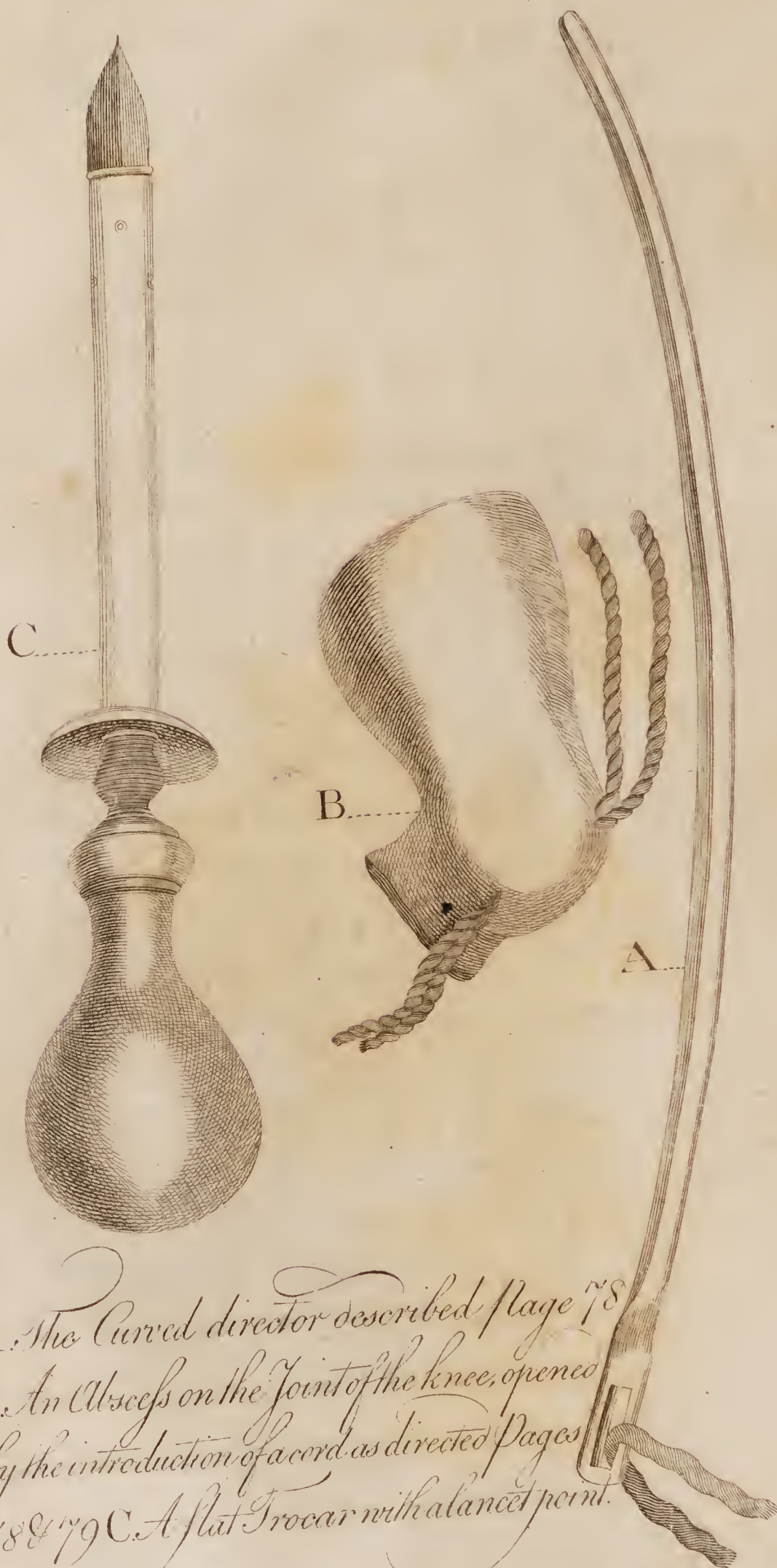
SEVERAL sets of these instruments for abscesses of different sizes, are kept in the Infirmary here; they

they fulfil the intention, as already observed, exceedingly well, and are a very ingenious contrivance. But as the curved director delineated in the plate, answers the purpose equally well, and is in itself fully more simple ; it may, for that reason, perhaps, be sometimes found more convenient. It is used in the following manner :

AN opening sufficiently large for the cord intended to be inserted, being made with a lancet in the superior part of the abscess ; the director, threaded with a cord of candle-wick-cotton, or of soft silk, proportioned in greatness to the size of the tumor, is then to be introduced, and its point to be pushed downwards till it is felt externally, exactly opposite to the most depending part of the swelling. The director being kept firm by an assistant, an incision is to be made with a scalpel upon its under extremity, of a length somewhat more considerable than the opening first made by the lancet ; for when this circumstance is not attended to, and when of course the under orifice is made no larger than the upper, the matter is very apt to transude above, which always proves inconvenient to the patient ; but which, in this manner is very easily avoided.

The





A. The Curved director described page 78
 B. An Abscess on the Joint of the knee, opened
 by the introduction of a cord as directed pages
 78 & 79 C. A flat Trocar with a lancet point.

The director is now to be drawn downwards, with so much of the cord, as to leave two or three inches of it hanging out at the lower orifice. In order to cause the cotton run easily on its first introduction, as likewise at the different after-dressings, so much of it as is to be used at the time, should be well rubbed over with any emollient ointment.

IN twenty-four hours or so, from its introduction, the cord may be moved, and so much of it drawn downwards, as to allow of all that part of it being cut off which had been used the preceding day ; and in this manner so much of it is to be moved daily, so long as from circumstances it may appear necessary.

A REGULAR and flow discharge of the matter is thus produced ; the sides of the abscess are thereby allowed to contract gradually ; and a slight inflammation being kept upon their surfaces by the friction of the cord, they are from that circumstance brought to unite and to adhere firmly to one another, much sooner than they otherwise would do. As the discharge diminishes in quantity, so the size of the seton should also be gradually

gradually lessened ; and it is easily done, by withdrawing a thread of the cotton, once in two days or so. At last, when there is little more matter afforded, than might naturally be expected from the presence of the cord merely, it may be altogether taken out, and a gentle pressure being continued upon the parts by a roller for a few days longer, a very certain and lasting cure may almost always be depended on.

In the introduction of the seton it was expressly said, that it ought to be made from above downwards, that is, by an opening made in the superior part of the abscess. The reason for such a restriction, is this, That when the first opening is made in the depending part of a swelling, a considerable quantity of matter immediately runs out, which, as it causes the sides of the upper part of it to collapse, renders it more difficult to introduce the director through the whole course of the abscess, than when done in the manner directed ; when properly executed, the bottom as well as every other part of the tumor is kept distended to the last, very little of the matter escaping by the upper orifice. By being introduced in this way too, the quantity of cord that still remains to be used, is kept clean and dry ; which it cannot
possibly

possibly be when inserted in the contrary manner.

THESE, to some, may perhaps appear very trifling *minutiæ* to be so particularly taken notice of, but too much, it is imagined, can never be said, in rendering a practice of any kind that is said to be beneficial, clear and evident.

ALL that has hitherto been said with respect to the use of setons, in cases of abscesses from recent inflammation, applies with equal propriety, it must be understood, to tumors of very long continuance, when the matter contained is either of a purulent nature, or of a consistence not much thicker than that. In so much, that all encysted tumors, of the thinner mellicerous kinds, cure equally well in this manner, as very lately formed abscesses ; so that the practice is by no means confined to one set of tumors only ; and it may even probably be had recourse to in others, in which it has not as yet been used.

IT answers particularly well in all glandular collections of matter, where admission of air is attended with even worse consequences than in o-

ther parts. Thus, when it is thought adviseable to open scrophulous soft swellings, they always heal much sooner, and easier with the seton, than by a large incision. Venereal Buboes too, when fully matured, and when the teguments are not become very thin by being long overstretched, heal much more readily and kindly by this management than with any other.

FROM the practice answering so remarkably well in every case of abscess, it was at last a good many years ago, made trial of by Mr Rae in the Infirmary here, in the hydrocele, or collection of water, in the *tunica vaginalis testis*; and has since that time been frequently used in similar cases. I must acknowledge, however, that from the several instances I have yet seen of its effects in that disorder, I am not altogether certain, whether it ought to be preferred to the simple incision or not. For, though I never knew an instance, when the operation was properly done, of its failing in producing a radical cure; yet, the friction of the cord upon the body of the testis, to which in this operation it is immediately applied, generally occasions a very high degree of inflammation; fully more, I have often
thought,

thought, than is commonly observed from the simple incision : Farther experience, however, is necessary, in order to determine a question of such importance.

BUT when, in such cases, it is resolved to have recourse to the seton, the method of introducing it, as above directed for abscesses, with a curved director, properly adapted in point of size, seems fully more simple, though, in other respects, no-wise better than that lately recommended by a very ingenious author ; which being through the means of a common trocar, cannot possibly be done, either so easily, or even, it is imagined, entirely free from danger : For instances have occurred, and that too, with very able Surgeons now living, where the body of the testis has been wounded by puncturing, in cases of hydrocele, with that instrument ; it being, from its round triangular form, rendered more difficult of introduction than it possibly could be from any other shape †. Whenever it is agreed upon, however, to make use of a trocar, either with a view to a palliative, or a radical cure, one of a lancet-

† Mr Thomas Hay, Surgeon in this place, some years ago invented a curved director, as here recommended, which has since that time, been used for the introduction of a cord in cases of hydrocele, and is found to answer the purpose very conveniently.

lancet-point form, as represented in the plate, answers the purpose with much more ease than the one in common use. A large one of this kind was made some years ago, with a view to its being tried for the paracentesis of the abdomen ; and, as on that occasion it answered the purpose exceedingly well, it has since been often used, and is always introduced with the greatest ease.

S E C T I O N IV.

Of M O R T I F I C A T I O N .

§ 1. *General Remarks on Gangrene.*

THE termination of inflammation, both by Resolution and Suppuration, having now been pretty fully treated of, we come next in order to the consideration of *Gangrene* or *Mortification*.

THE several appearances of Gangrene having been already particularly enumerated, it
is

is not now necessary to make a full recapitulation. Only it may be remarked, that a thorough mortification, or the last stage of gangrene, is known only by the diseased part becoming totally black, by its losing all pain and sensation, at the same time that it emits a considerable foetor; at last too, a softness or flaccidity *in general* takes place, together with an entire dissolution of the different parts of which the organ is composed.

I HAVE said only in general, for although the several appearances, as above related, do most frequently occur, yet there are some instances of what is called dry Gangrene, in which the parts continue totally mortified for a great length of time, without either turning very flaccid, or running into dissolution.

SUCH cases, however, never occur from inflammation, but happen commonly from the flow of blood to such parts being put a stop to by compression of one kind or another, as tumors, ligatures, or other similar causes, obstructing the principal arteries that used to supply them; which, when the stoppage of the circulation is complete,
always

always occasion a very flow, tedious, mortification ; and as the parts, in such instances, are no longer supplied with fresh quantities of fluids, while a considerable evaporation must still be going on, such a degree of humidity cannot, therefore, possibly occur, as does in other cases of gangrene. So that species of the disorder has, perhaps, with propriety enough, been termed the *Dry Gangrene*.

THERE are many other varieties of the disease enumerated by authors, as the *White Gangrenè* * ; in which the parts supposed mortified do not turn black ; but retain nearly their former colour, &c. Whether such complaints, however, can, with propriety, be denominated Gangrene or not, may probably be doubted ; but, as it is chiefly that species of the disorder, which succeeds to inflammation, that is now particularly to be treated of and in which no such varieties are ever observed, it is not here necessary to carry the enquiry farther ; and that especially, as nearly the whole mode of treatment, afterwards to be pointed out, applies, with almost equal propriety, to every variety of the disease.

OF

* Quesnay, *Traité de la Gangrene*, p. 337.

OF all the inflammatory complaints to which the system is liable, that species of the disorder termed Erysipelas, is observed most frequently to terminate in Gangrene; and whenever phlegmon is, in any degree, conjoined with an erysipelatous affection, which it not unfrequently is, it seems thereby to have acquired the same tendency, by being, as already remarked, more difficult to bring to suppuration than the true phlegmon, and by going on more frequently to the mortified state.

THE best and most effectual means of preventing mortification in every case of inflammation, is to endeavour either to obtain its resolution or suppuration; the different remedies for both which purposes have already been fully pointed out. But, in some cases, the disorder is far advanced, and Gangrene already begun, before the Surgeon's assistance is called in; and in others, the inflammation runs so high, and proceeds so quickly, that Gangrene occurs notwithstanding the use of all the remedies that can be applied: In some instances so quickly, even, that the inflammatory state is scarcely thoroughly discerned, till mortification appears to be beginning.

§ 2. *Observations on Carbuncles as a species of Gangrene.*

THIS is most remarkably the case in *Carbuncles*, what by the French are termed *Charbons*; in which the inflammation proceeds so rapidly to mortification, that there is seldom any evident tumor raised, the parts turning black, and ending in real Gangrene, often in the course of twenty four hours from the first attack.

THE quick progress usually made by this disorder, renders it the worst and perhaps the most dangerous species of inflammation; for when it occurs internally upon any of the viscera, as it sometimes does, it must probably in every instance prove fatal, as no remedies we are acquainted with, can ever prevent its progress towards the last state of mortification: Externally, indeed, when not very extensive, and not seated on any of the large blood vessels and nerves, carbuncles are frequently got the better of; that is, with the loss of the affected parts.

As carbuncles always appear without any evident external cause, they are in general most probably owing to a scorbutic or putrid state of the fluids ; for, when putrescency prevails in the system, every inflammatory affection that occurs, proceeds much more readily to the mortified state, than inflammation in other circumstances ever does.

THIS opinion with respect to the cause of carbuncles depending upon a putrescent state of the system, is particularly confirmed, by their occurring most frequently as a symptom in pestilential disorders ; for, although they are sometimes met with even in this country, where the plague is now never known, yet the real carbuncle is far from being a common occurrence.

IN such instances, Gangrene is very easily accounted for, from the predisposition in the system to putrid disorders ; but how is it produced by inflammation in other cases, and where no such disposition can be supposed to take place ?

§ 3. *Of the causes of Gangrene.*

AN increased action in the vessels of a part, we have already endeavoured to establish as the immediate or proximate cause of inflammation; and the same cause, it is presumed, will, in many instances, account for the rise of mortification.

ONE evident effect of an increased action in the vessels, in every case of inflammation, is a propulsion into the smaller capillaries, of a greater quantity of the more gross parts of the blood, than naturally they were intended to transmit: When the extravasation of fluids which commonly ensues in consequence of this, is not considerable, they are frequently reabsorbed into the course of the circulation, and so a cure is obtained by Resolution. But when an extravasation of the ferous parts of the blood into the cellular membrane, takes place to a still greater degree, suppuration is then most frequently the consequence.

WHEN, again, a strong exciting cause is applied to a constitution already predisposed to inflammatory complaints, as a lacerated wound, for instance,

stance, in a young healthy man, the violent irritation, and consequent increased action of the vessels that ensues, occasions the red particles of the blood to be likewise poured forth together with the serum. A collection of an extravasated fluid being thus formed, the great degree of preternatural heat kept up by the disorder, very readily excites in it some degree of fermentation; which, from the nature of the matter it has to act upon, not being able to effect a supuration*, and the crassamentum of blood, being particularly liable to run into the putrid fermentation†, mortification which is undoubtedly a very high degree of it, comes in course to be naturally produced.

THE disorder being, in this manner, once raised in a part, the progress, which it afterwards usually

* Mr Gaber, when speaking of his experiments upon the crassamentum of blood, says, that he could never obtain genuine pus from it, and farther, adds, “ vero similis ergo *sanguinem* ceteris puris principiiis admixtum, ipsum magis *foetidum* et deterius reddere, &c.” Loco citato, p. 87.

† For some animal substances, such as urine, the bile, and the crassamentum of blood *soon* putrify. Sir John Pringle’s experiments, Appendix, p. vi.

usually makes, does not appear very difficult to account for. The putrescent particles of the tumor, by insinuating into the cellular membrane of the neighbouring sound parts, as, in that manner, they extend the contagion, so they very soon bring these likewise to suffer. In this way, the mortification continues to advance, till meeting with a part, perhaps, naturally more irritable than the others, or which, by that time, has been rendered so, by the different remedies to be pointed out, a certain degree of new inflammation comes to be easily induced in consequence of the stimulus, which putrid particles must always occasion ; which, as it renders the parts more firm and compact, makes them less easily penetrable by the putrescent contagion, and a suppuration of course ensuing, as a consequence of the preceding inflammation, a complete separation of the diseased from the sound parts, is thereby, in general, very soon effected.

AT least, that such an inflammation, with a consequent suppuration, does, in cases of real gangrene, always happen before a separation of the diseased parts takes place, is well known to every practitioner ; and that the cause assigned for these

these appearances, is the true one, I think, from the different circumstances taken notice of, is at least, exceedingly probable.

THUS the local symptoms of gangrene, are pretty certainly accounted for; and the sinking of the pulse, which, in extensive mortifications, always occurs, and which is, by much the most remarkable change that takes place in the general system, is a very natural consequence of that debility, which seems to be a constant and necessary attendant on a putrescent state of the fluids, from whatever cause that may have arisen, as is particularly demonstrated in putrid fever, and in scurvy, where a languid pulse, and general debility, are always considered as the most characteristic symptoms.

§ 4. *Of the Prognosis in Gangrene.*

IN every case of gangrene, the prognosis should, at first, be exceedingly doubtful; for, even in the slightest affections of that nature, the system, from the contagion it receives by the absorption of the putrid matter, is, in some instances, so much affected, that the patients are
suddenly

suddenly carried off, without having been previously in any evident or apparent danger.

IN such cases, however, as succeed to inflammation from an external cause, where the gangrene is neither very deep nor extensive, and does not seem to spread, the prognostic should then to be sure be much more favourable than in those that suddenly arise from an internal cause, where the mortification runs deep, and more especially when it is still continuing to advance ; in which circumstance, the greatest danger is always to be apprehended. Indeed, no person whatever, with any considerable mortification, even from an external cause, can be said to be free from risk, till the diseased parts are not only separated, but even entirely cast off from the sound. The poison of putrid miasmata being of such a penetrating destructive nature, that many instances have occurred of patients being very quickly carried off, seemingly from that circumstance alone, long after the mortification had ceased to advance farther.

§ 5. *Of the necessary Remedies in Gangrene.*

IN the treatment of Gangrene, when no blood-letting or other evacuation has been prescribed during the preceding inflammatory state of the disorder ; and when the general symptoms of inflammation, particularly a quick, full, or hard pulse, still continue violent ; and especially when the patient is young and plethoric, it then becomes absolutely necessary, even although mortification may have commenced, to empty the vessels a little by one general blood-letting. Which, by moderating the fever, and abating the universal heat, proves often a great means of preventing the disorder from proceeding farther ; and, in this view, blood-letting, in such cases, may, in reality, be considered as an antiseptic, and does often, indeed, in that particular situation of mortification, prove more powerfully so than all the different articles in general enumerated as such.

UPON the same principles with blood-letting, gentle laxatives, and a free use of acidulated cooling drink, also become necessary. But, as in the farther progress and continuance of mortification,

cation, the patient is very apt to sink, and the pulse to turn languid, every evacuation, especially of blood, should be sparingly administered, and no more ever admitted of than may seem merely necessary for *moderating such symptoms* as at the time appear too violent.

WHEN again, as is most frequently the case before the disorder has made any great progress, the patient is much reduced, either by severe evacuations, or merely by the effects of the complaint, when the pulse is low, and the other symptoms of fever not considerable, in these circumstances a quite contrary treatment becomes necessary; the principal indication, then, being to prevent the system from sinking too much; by a proper use of cordials, and especially by those of the tonic kind, while, by the same means, we enable it to free itself from, or to cast off the mortified parts. For, as already observed, the separation of gangrenous, from healthy sound parts, being always effected by the intervention of inflammation, it should be our chief care to assist nature as much as possible, in exciting in the system, by every proper means, that disposition which, from experience, we know to be
most

most favourable for the production of inflammation; which, when speaking of the general predisposing causes to inflammatory complaints, we have endeavoured to shew, to be a full plethoric state of the vessels, which, at the same time, is generally conjoined with a more invigorated tone of the vessels themselves.

It may, perhaps, be imagined, that this indication is, in some measure, contradictory to what was lately observed with respect to the propriety of blood-letting in some cases of gangrene; when properly considered, however, it will by no means appear to be so. For we well know, that in every disorder to which the system is liable, an over-dose of the most effectual remedy, will often prove just as detrimental as a medicine of the most opposite tendency; and, in the same manner, tho' a certain degree of inflammation is, perhaps, absolutely necessary for the cure of every gangrene, yet, in a very high degree, it becomes always exceedingly hurtful.

WITH a view to fulfil the intention of this indication, a good nourishing diet becomes necessary, with such a proportion of generous wine as

the patient's strength, and symptoms of the disorder may seem to require.

By a due attention to this circumstance of regimen, particularly by a proper allowance of wine, much more real advantage is commonly obtained than ever occurs from the use of the whole tribe of stimulating warm cordials. When, however, the patient is much reduced, and very languid, some of these, such as the volatile *alkali*, and *confectio cardiaca*, may, at the same time, and in such quantities, be prescribed, as the patient's immediate situation appears to render necessary.

BUT of all the medicines hitherto used in mortification, there is none proves so certainly efficacious as the *Cortex Peruvianus*, which has often a very evident and powerful influence in putting a stop to the disorder. As it is a very powerful tonic remedy, it may probably act by invigorating the general system, and so, by rendering it more susceptible of that inflammatory tendency, which we have shewn to be so necessary for effecting a separation of mortified parts, it may, in that manner, enable it to free itself from them. It may likewise, perhaps, in some instances, act

as

as an antiseptic in the way of correcting putrefaction, though, in the former mode of operating, its effects, it is apprehended, are generally much more considerable than in the latter.

IN whatever manner the bark operates, however, it can in no case of mortification be ever, with propriety, omitted, excepting in the first stage of the disorder, while several of the inflammatory symptoms yet remain violent; but, so soon as these are tolerably abated, it may always, both with safety and advantage, be had recourse to.

THE best rule with respect to the quantity of the medicine to be exhibited, is to give it always in as large doses, and these to be as frequently repeated as the stomach can bear. It is a great inconvenience, however, that attends almost every case of gangrene, that the stomach can seldom bear large enough quantities of the bark in substance, which is always the best mode of using it, but particularly in this disorder, when none of the finer preparations of the medicine are ever so much to be depended on. Of all the different forms in use for giving the bark, I have generally

nerally found it fit easiest on the stomach when conjoined with some of the spiritous waters ; and to the use of which, in such cases as bark itself is proper in, there can never be any objection. The following formula is far from being disagreeable, and I have known it answer with patients whose stomachs rejected every other :

Rx. Aq. alexiter. simp.

Cinnamon. fort. aa unc. iii.

Aromatic. unc. ii.

Pulv. cort. Peruv. subtil. unc. fs. misce ; coch. ii,

Omni semihora sumendis, agitata phiala.

IN this manner a drachm of the bark comes to be taken every hour, which, in general, in less than twenty-four hours, has a considerable influence in producing a change on the disorder. A great deal depends upon the medicine being in a fine powder, as patients often bear considerable quantities of it in that state, when they reject even very small doses of a coarse powder.

TOGETHER with the bark, the vitriolic acid is frequently had recourse to with advantage, and
the

the best form of using it, is by acidulating all the patient's drink with elixir of vitriol.

THESE are almost the only internal remedies to be depended on in cases of gangrene ; many others indeed have been recommended, but all the advantages to be obtained from any of them, are with more certainty to be got, it is imagined, from some or all of those already mentioned.

IN the way of external application, a variety of remedies have been pointed out, and particularly those of the antiseptic kind ; such as all the warm gums, and balsams, ardent spirits and even alcohol ; and to admit of their nearer application to the sound parts, with a view to the preservation of these from putrefaction, deep scarifications through the diseased and into the sound parts have been generally recommended.

BUT although such articles may be of use in preserving *dead* animal substances from corruption, yet that they will always prove serviceable, in the same manner in living bodies, is probably very much to be doubted. And it is even apprehended, by the strong irritation they always occasion

caſion when applied to a living fibre, that, in ſuch caſes as the preſent, they may rather do miſchief, it being only, as was already obſerved, a very ſlight degree of inflammation that is required. The incifions too, when carried into the ſound parts, with a view to facilitate the operation of ſuch remedies, may likewise do harm, not only from the riſk of wounding the blood veſſels, nerves, and tendons that lie in the way ; but alſo, by allowing a free and farther entrance of the putreſcent fluids into the parts not yet affected : And unleſs they are carried ſo deep as freely to reach the ſound parts, applications of the antifeptic kind, can never have any effect in anſwering the purpoſe for which they were intended.

FOR theſe reaſons, and from never having obſerved any advantages to accrue from ſcarifications in mortification, I have long thought, that they might be entirely laid aſide *. Theriac
was

* Although I was convinced from experience of what is here advanced againſt the uſe of ſcarifications, as well as of the impropriety and inefficacy of very warm ſtimulating applications in caſes of mortification ; it was not without diffidence that I firſt ventured to aſſert it, the opinion at that time being, in this place at leaſt, in a great meaſure new. I am now happy to find, however, in a late publication

was, in former times, and still is, with some practitioners, a very common application in every case of gangrene; but from any opportunities I have had of seeing it used, I cannot say that it ever seemed to produce any evident good effects.

ALL the advantages commonly observed from the great variety of applications recommended for gangrene, are obtained with more ease, and generally too with more certainty, from the use of any gentle stimulating embrocation; which, by exciting a slight irritation upon the surface, and especially when assisted by a free use of the bark, as already directed, at last commonly produces such a degree of inflammation, as is wished for. With this view, I have frequently known a weak solution of *sal ammoniac* in vinegar and water, answer exceedingly well; a drachm of the salt to two ounces of vinegar, and six of water, form a mixture of a very proper strength for

tion, the same practice recommended from the best authority. *Vide* Chirurgical Observations by Percival Pott. F. R. S. &c.

In the same publication is given a particular description of a species of mortification incident to the toes and feet, in which Peruvian bark has little or no influence, and in which opium given in large doses frequently repeated, proves a very effectual remedy.

for every purpose of this kind ; but the degree of stimulus can be easily either increased or diminished, according to circumstances, by using a larger or smaller proportion of the salt.

ALTHOUGH, for the reasons formerly advanced, incisions may not, in general, be proper, yet, in such cases, where the mortification runs very deep, it is sometimes of service to make scarifications into the diseased parts, so as to remove part of them ; which, by taking off a considerable load, perhaps, of putrid dead flesh, not only lessens the foetor, which, in such cases, is always considerable, but often renders it more easy for the sound parts to free themselves from the remainder : When, with this view, however, incisions are had recourse to, care should always be taken, that they be not carried the length of the sound parts.

WHENEVER, either by the means recommended, or by the effects of a natural exertion of the system, a slight inflammation appears between the diseased and sound parts, we may in general, with tolerable certainty, expect, that, in due time, a thorough separation will take place ; and
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when a full suppuration is once fairly established, there can then be little doubt, but that the mortified parts will be very soon and easily removed.

A separation being altogether effected, the remaining sore being then to be considered merely as a simple purulent ulcer, may be treated in the same manner as such sores generally are, with very slight easy dressings, at the same time that proper attention must always be paid to the support of the general system, by the continuance of a nourishing diet, the bark, and such quantities of wine as may seem necessary.

ALTHOUGH, however, such ulcers as remain after gangrenous affections that have not been very extensive, may, in general, be healed in the manner now mentioned ; yet, in mortifications seated on the extremities, and that have penetrated to the bones, it sometimes happens that the whole surrounding soft parts come to be destroyed, so that amputation of the member is thereby rendered necessary. Amputation, however, should never be had recourse to, till a full and thorough separation of the mortified parts has taken place ; for it is now, in every case of

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gangrene,

gangrene, from undoubted experience, an established maxim in surgery, that though the parts immediately contiguous to those *evidently* diseased, may outwardly appear sound, yet there can be no certainty of those even directly below remaining so, till a full stop, or even till a complete separation of the mortification has been produced ; so, till that has evidently taken place, it is, in such cases, a general rule never to amputate a member, there being no other security for the disorder not returning, and that immediately too upon the remaining stump.

It must be observed, however, that so soon as an entire separation of the gangrene has occurred, no time should be unnecessarily lost in having recourse to the operation ; for, so long as any of the corrupted parts remain in contact with the sound, the system must still be suffering considerably, by the constant absorption of putrescent particles, that so long will undoubtedly take place.

C H I R U R G I C A L

E S S A Y S.

P A R T II.

On the Theory and Treatment of ULCERS.

S E C T I O N I.

Observations on Ulcers in general.

BY different authors very different definitions have been given of the term *Ulcer*: But what, in general, seems to be understood by it, is a solution of continuity in any of the softer parts of the body, discharging either pus, sanies, or any other vitiated matter; and that, whether the complaint may have originally proceeded from an internal or an external cause.

MANY

MANY writers, indeed, have confined the term to such sores as are the consequence of some internal disorder of the system : But in this they have certainly erred ; for even the most simple wound, not in the least connected with any other disease, if it does not heal by what is called the first intention, without the formation of matter, must, in its progress towards a cure, always end in an ulcer.

ALTHOUGH, in compliance with custom, I have, in the definition, confined the seats of ulcers to the soft parts only, yet that ulcers of the bones do likewise occur, is certain : Thus every species of caries, with loss of substance, may, with propriety, be termed an Ulcer, and is so in reality, both in its appearances and effects.

BUT, in order to prevent any sort of confusion, by the introduction of more distinctions than are absolutely necessary, I mean to consider caries as an accidental symptom of ulcers, and to speak of it under the general denomination of *Carious Ulcer*.

ULCERS

ULCERS have been commonly distinguished by different appellations, according to some particular circumstance attending them ; and different methods of cure have accordingly been pointed out for each : And had these been taken from characteristics sufficiently distinct, and of any real consequence, either in the theory or treatment of the different disorders, they would, no doubt, have been material, and ought to be retained. But as it is evident that many of them have been formed from circumstances, either not very obvious, or from such as are merely accidental, and that do not, therefore, afford any real distinction, to adhere to these can never be attended with the least advantage, and may even, it is presumed, frequently do mischief, by leading to a more complicated practice, when a much more simple treatment might probably answer the purpose.

THE different circumstances that ulcers have received their denominations from, are,

1. FROM the general appearances of the solids in the parts diseased ; as the Callous, Fungous, Fistulous, &c.

2. FROM

2. FROM the nature of the matter discharged ; as the Ichorous, Sordid, and Purulent ; from their discharging a thin ichor, a more viscid glutinous kind of matter termed Sordes, and purulent matter.

3. FROM their standing, as the Recent, and Habitual.

4. FROM the attendant symptoms being mild or violent, they are denominated Benign or Malignant ; and,

5th, THEY have been termed Venereal, Scorbatic, or Scrophulous, according as they have been supposed to be connected with one or other of these diseases.

THOUGH it may be proper for practitioners to be acquainted with these and other terms that have been used, in order more accurately to understand the meaning of authors, and to explain to one another the appearances of diseases, yet it is exceedingly obvious, that many of the distinctions have been taken from circumstances quite too trivial to have any real influence on the disorders ;

orders ; and which, consequently, can have no other effect than to embarrass and perplex beginners.

§ 1. *Of the Arrangement of Ulcers.*

THE following arrangement of ulcers, at the same time that it appears exceedingly simple and natural, comprehends every species of the complaint that can occur ; and, by attending to it, their treatment is commonly rendered much more certain than in general it is found to be.

ULCERS then may be divided into two general classes ; in the first I would comprehend all such as are merely local, and that do not depend upon any disorder of the system.

IN the second class are included all such ulcers as are the consequence of, or that are connected with any disorder of the constitution.

THE importance of such a classification appears evident from the very great difference in the treatment, which undoubtedly should take place, between ulcers that are only topical affections, and such as are connected with any disorder

der of the system. It is frequently, indeed, from want of due attention to a distinction of this nature, that the treatment of ulcers is rendered so tedious and uncertain as they very often are. For, by forming a diagnosis too hastily, and treating an ulcer that is merely a topical affection, with remedies directed to some disorder of the general system, many are, of consequence, forced to undergo very unnecessary courses of medicine; and have thereby their constitutions irreparably hurt.

A CONTRARY error again, not unfrequently happens, that is sometimes attended with very disagreeable consequences, in treating as simple local affections, such ulcers as are certainly owing to some general disorder of the habit; and which it is, therefore, in vain to expect to cure by topical remedies only, unless the disease of the constitution is at the same time attended to. Sometimes too, an ulcer is treated as a disorder of the constitution, but by mistaking the nature of the complaint, which of course must occasion a misapplication of remedies, the cure of the sore is thereby not only greatly retarded, but the system
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in other respects often brought to suffer very materially.

THUS, an ulcer connected with a scorbutic habit of body, is not unfrequently mistaken for, and treated as a leprous, or venereal affection; a circumstance which undoubtedly leads to a kind of practice, that must frequently be attended with disagreeable consequences.

THE only cause that can occur, to occasion such mistakes in practice, is the want of a proper set of diagnostic symptoms for each species of ulcer. This, in the ensuing sections, I have in some measure endeavoured to remedy; by enumerating as clearly and concisely as possible, the different characteristic symptoms of each; and as the several species taken notice of, though they contain every material distinction that can in the least affect practice, yet as they are not near so numerous as those commonly mentioned by authors, the several means of distinction pointed out, will, it is hoped, be found fully sufficient for characterising all the different species.

BEFORE going on to the particular consideration of the different species of the disorder, it will not be improper, in the first place, to make a few observations upon ulcers in general; and first with respect to their causes.

§ 2. *Of the causes of Ulcers in general.*

THE causes which, in different circumstances, may give occasion to ulcers are exceedingly various; but in general they are found on examination, to arise from one or other of the following nature:

1st, FROM such as may be termed occasional or exciting causes; of which kinds are, wounds in general, bruises ending in suppuration, burns, and inflammation from whatever cause it may have arisen, when it terminates either in gangrene or suppuration.

2. FROM such as with propriety may be termed predisposing causes; of which kind are considered, all disorders of the system in general, attended with determinations to, or affections of particular parts. Such as fevers of all kinds that terminate

minate in what are called critical abscesses ; also lues venerea, scrophula, and scurvy.

3. ULCERS may proceed from a combination of the two foregoing causes : Thus a slight scratch, or excoriation, that in a sound constitution would have healed without any trouble, in a habit tainted with any of the above-mentioned disorders, will frequently produce a very disagreeable and tedious ulcer.

§ 3. *Of the prognosis of Ulcers in general.*

THE causes of ulcers being so very various both in their natures and effects, the prognosis to be given in all such complaints must, it is evident, be no less so.

1. IT must depend upon the nature of the different exciting causes that may have given rise to the disorder.

2. UPON the situation of the sores ; and,

3. ON the time of life and habit of body of the patient at the time.

WITH

WITH respect to the first of these, it is evident, that the occasional cause must have a very considerable influence on the nature of the complaint. Thus an ulcer proceeding from a simple wound, inflicted with a clean cutting instrument, will *cæteris paribus* always heal more easily, than one that has been the consequence, either of a severe bruise, or of a wound from a foul ragged instrument.

It is likewise found, that punctured wounds are much more difficult of cure, than such as have large free openings; and this again may be owing to two different reasons.

1. To the want of a free exit to the matter, which in punctured wounds, is very apt to insinuate itself between the common teguments and muscles, and even between the interstices of the different muscles themselves; a circumstance that frequently lays the foundation of very troublesome sinuses.

2. THE symptoms of inflammation and pain, that succeed to wounds from punctures, are always much more troublesome than from such
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wherein the parts have been freely and extensively divided ; for it is found by experience, that the irritation occasioned by the partial division, either of a nerve or of a tendon, proves always much more considerable than when the parts have been thoroughly cut in two : And hence has arisen the practice of enlarging all such wounds ; which often carries off the pain and inflammatory symptoms more effectually, than all the applications and remedies that in such cases are generally recommended.

Secondly, THE cure of ulcers, it was observed, is considerably influenced by their situation, and that in two different respects.

1. WITH respect to the nature and organization of the parts on which they are seated ; and,

2. As to their situation on the trunk of the body, or on the upper or lower extremities.

THUS it was long ago remarked, and has since been confirmed by experience, that ulcers in the soft fleshy parts heal much more easily, than when
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the tendons, aponeuroses of muscles, glands, periosteum or bones, are affected.

THE pain occasioned by sores in the soft muscular parts is not so considerable, the discharge is generally better conditioned, and the cure commonly advances more quickly than when any of the other parts are the seats of the disorder: And, on the other hand, whether ulcers are seated in the cellular membrane, in the tendons, periosteum or bones, their cure is always observed to go on much more easily, when seated in the trunk of the body, than on any of the extremities; and of these, again, the legs and feet are found by every practitioner to be the most troublesome situation for sores of every kind.

THE depending situation of the latter, seems to be the principal cause of such a difference; for the fluids having in them to proceed in a direction quite contrary to their own gravity, and that too at such a distance from the heart, where its influence cannot be considerable, whenever any of the parts happen to lose their tone, or by any accident suffer in their arrangement, swellings, especially those of the serous kinds, very
naturally

naturally occur. And, when such swellings do arise in the neighbourhood of ulcers, by occasioning too great an afflux of matter to the sores, the discharge at last becomes vitiated in its quality likewise, and so the cure is protracted, till the parts, by rest and proper management, have again recovered their natural tone.

IT is from this circumstance chiefly, that a great part of the cure, in ulcers of the legs, is made to consist in rest, and in keeping the limb in an horizontal posture. One great advantage too of the laced stocking, in such cases, consists in its tendency to prevent these kinds of swellings : This will hereafter, however, be more particularly taken notice of.

THE situation of ulcers likewise, with respect to the neighbourhood of large blood-vessels and nerves, from the danger of these at last becoming affected, must naturally have a considerable influence on the prognosis ; as ought also their being seated upon, or very near to any of the large joints, or there being any risk from their situation of the matter penetrating into either of the cavities of the chest or abdomen.

It was, in the *third* place, observed, that the prognosis, in every case of ulcer, should be greatly influenced by the age and habit of the patient.

Thus, in young healthy people, the secretions of all kinds are much better proportioned, both in quantity and quality, than in the old and unhealthy, in whom the secreting organs are seldom capable of performing rightly their different functions: And, as the different discharges from ulcers are to be considered entirely as secretions from the general mass of fluids, and their being of a good or of a bad quality, depending of course so much on a healthy state of the solids, it cannot, therefore, appear surprising, their being so much influenced by the general health of the patient.

THE cure of ulcers depending, therefore, upon such a variety of circumstances, a just prognosis, it is evident, can only be obtained from a due attention to all of them.

§ 4. *The Cure of every Ulcer may, with certain Cautions, be safely attempted.*

WITH respect to the *treatment* of ulcers, the first circumstance to be determined, is the propriety of attempting a cure or not. For, when ulcers have been of very long continuance, or appear to have had any effect either in carrying off, or in preventing any disorder the constitution may have formerly been liable to, it has always been considered as dangerous to attempt their cure: And, accordingly, almost every author that has wrote upon the subject, has expressly determined against it, as being a hazardous, and even a dangerous practice.

SUCH ulcers as have afforded a copious discharge, and have been of very long standing, it would no doubt be exceedingly imprudent all at once to heal up, as the system might very probably suffer from the sudden retention of a considerable quantity of fluids, which it had been accustomed for a long while to throw off, by means of such drains. Many cases, indeed, have ended fatally upon such ulcers drying up suddenly,

ly, either of their own accord, or by the imprudent use of astringent applications.

ON the other hand, however, the inconvenience of a constant running sore, and that too for life, and perhaps in a very disagreeable situation, is such as none but very old or inactive people can be supposed to submit to ; and, at the same time, is a circumstance that makes it a very desirable object, the discovery of such a course as may render it safe for patients to get free of such troublesome disorders.

THIS, with a very little caution, may be always accomplished, and that too with the greatest safety ; the only requisite precaution before attempting the cure of such habitual ulcers, being the introduction of some other drain, through the intervention either of a pea-issue or of a cord ; the former of which is managed with the greatest ease, and by increasing or diminishing the size and number of peas made use of, the quantity of matter may be enlarged or diminished at pleasure.

§ 5. *Of the Effects of Issues in the cure of Ulcers.*

AN issue of this kind being introduced, and having come to discharge properly, and in quantity nearly equal to what the ulcer afforded, the cure of the latter may be then carried on with the greatest freedom; and if the sore has not been of very long standing, the size of the issue may be gradually lessened, till it is brought to consist of a single pea or so only, which can be kept constantly open with very little trouble.

BUT when, on the contrary, the ulcer has been of very long continuance, and especially if it seems to have been instrumental in preventing any other formidable complaint, in that case the issue should undoubtedly be continued of the same size for life; but even this may be done with no great inconvenience, at least in comparison with the trouble attending a large ulcer.

THIS practice might, I think, from reasoning alone, be considered at least as safe. For, if a drain equally copious is first introduced, and afterwards kept running, healing the ulcer for which it was substituted, however old it may have been, cannot, in these circumstances, one would imagine, make any sort of difference to
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the constitution. And, in fact, I can, from experience, certainly say, that, in many such cases, the practice has been had recourse to, and I never knew an instance of its producing any inconvenience.

THE objections that have been made to the practice here recommended, are,

1. THAT an issue to be continued for life, is almost as troublesome and disagreeable in its management as an ulcer. And,

2. THAT nature having been for a long time accustomed to the discharge of a particular kind of morbid matter afforded by the ulcer, we ought not, therefore, by innovations, to run any risk in diverting her stated and usual operations.

THE first of these arguments is very easily, and has already, indeed, been in some measure answered; for it cannot be readily admitted, that a simple issue, the most convenient situation for which can be chosen, will prove so troublesome as a large ulcer, and that probably in a
very

very inconvenient situation : Of this, indeed, we have evident demonstration, from daily experience, there being no complaint more perplexing to patients than extensive ulcers, especially when the discharge is thin and acrid, as it very often is.

§ 6. *The effects of Ulcers on the Constitution depend more on the Quantity than on the Quality of the Matter discharged.*

THE other objection alledged against the practice of healing old ulcers, is, as was already observed, the supposed danger and risk to the constitution, from the retention of a particular kind of morbid matter, which by their means it had been accustomed to get free of.

By the supporters of that objection it is said too, that although we may, by means of an issue, occasion a drain equal in *quantity* to the matter afforded by an ulcer, yet its being different in *quality* must make a very great change to the system.

AND it must be acknowledged, that we do almost universally observe the greatest difference
between

between the matter of an issue, and that discharged from an ulcer ; from the latter it being frequently thin, sharp, and acrid, whereas a mild bland pus is the most common discharge from issues.

THE foregoing argument, at first sight, appears very conclusive, and has probably, with many, been the principal reason for rejecting the practice in question ; upon due consideration, however, it will not, it is presumed, be found to be of so much consequence ; and, that it is more owing to the quantity discharged by ulcers, than to the quality of the matter, that they prove useful to the constitution or otherwise, will, with very little reflection, be rendered exceedingly evident.

THUS it is observed, that the stoppage of even a pea issue, though it may never have discharged any thing farther than the mildest and most simple pus, if it has been of long continuance, proves equally dangerous to the constitution as the stoppage of an ulcer that has discharged nothing but matter of the most acrid kind ; a circumstance which could by no means be the case,
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if the common opinion was well founded, of its being the *nature of the discharge* only, to which the effects of drying up old sores is to be attributed.

AND, that the quantity merely of matter discharged, should, independent of every other circumstance, have a considerable influence on the system, cannot appear in the least surprising, when we reflect on the very considerable proportion of fluids requisite for the supply of even a middle sized issue with pus. For, independent of the quantity that appears, and is discharged at the different dressings, a large exhalation and absorption likewise, of the more thin serous parts, is constantly and at all times going on; and which circumstance alone accounts for the debilitating effects frequently observed from issues, that, in point of size, appear very inconsiderable *.

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* Upon this subject Sir John Pringle remarks: "As near as I could guess an ounce of serum, upon standing some days, did not furnish more of this matter, *viz.* Pus, than what might be produced by the daily running of a pea issue, or of a seton." Vid. Exper. xlv. Appendix to Diseases of the Army.

WERE we, indeed, certain that such acrid putrid matters, as are frequently discharged by ulcers, previously subsisted in the mass of blood, and that such sores served merely as drains for these, this would, no doubt, prove a very weighty argument; but, as it is probable, and, indeed, I may say certain, that it is by the ulcer only that such kinds of matter are formed, and that none of them previously subsisted in the blood, for this reason, therefore, the argument cannot be allowed to be of any consequence.

VERY little consideration, indeed, will make it appear, that no such kinds of matter as is frequently observed to flow from ulcers, ever subsisted in the blood. No analysis of the blood has ever been able to shew the existence of such acrid matters; nor is it easy to suppose life to continue in a frame so delicate as the human, with its vessels, which are so tender and irritable, filled with any sort of fluid, in its nature much more acrid than what, in general, the blood, in a state of health, is observed to be. Whereas it is well known, that the discharge from some kinds of ulcers, especially from those generally termed *Phagadenic*, is often so acrid, as not only
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to excoriate the furrounding parts, but even sometimes to render it dangerous for a Surgeon to apply the necessary dressings.

IN some cases of scurvy, indeed, a considerable degree of putrescency, of even the blood itself, does, no doubt, frequently take place ; but it is not in such ulcers as occur in that disease, that such very acrid corrosive humours, as we are now speaking of, are ever observed ; the phagedenic ulcer, of different authors, being a very different disorder from the true putrid ulcer, as described by Lind and other writers on scurvy.

BESIDES, though it was really proved that these kinds of matter actually did subsist in the blood, and that too in their different completely formed states, how is it possible that, by means of such ulcers, or any other drains, the morbid fluids chiefly should be evacuated, and such only left behind as are mild and innoxious ? A circumstance, however improbable, yet has always been asserted by the supporters of the opinion in question.

THE insufficiency of the theory appearing so remarkable, should of itself make it be rejected, though we could not even introduce a more satisfactory opinion in its place. But, as we can very clearly explain and account for every appearance and alteration in the discharge of ulcers, by supposing them to depend on some peculiarity in the solids or secretory organs connected with the ulcer, we are hence more easily induced to reject every other supposition.

THE general feat of ulcers is in the cellular membrane, now it is well known, that naturally there is secreted into the cells of that membrane, as there is into every cavity of the body, a thin transparent serum intended to keep these moist, and to facilitate the actions of the different muscles. It is this chiefly, with a greater proportion of the coagulable part of the blood, which, with a due degree of heat, as was elsewhere observed, forms that matter which we call Pus; and which we suppose, and indeed find, to be the natural discharge of ulcers in a sound healthy state of the body; and it is some change upon the nature of this fluid, which occasions the varieties in the discharges

charges from ulcers, and in the same ulcer at different times.

SUCH changes, though they are no doubt, in some degree influenced by different circumstances, as will hereafter be observed, yet in a great measure, they must depend upon some particular affection of the organs that separate such fluids from the blood ; for frequently in the course of a very few hours, we can, by means of an external topical application merely, change the appearance entirely of the matter of an ulcer, which in that manner could never in any case be done, if the change produced depended on an alteration effected on the general mass of blood.

ACCORDING to the nature of the exciting and other causes of ulcers, it is not unreasonable to suppose, that very considerable differences will occur upon the secreting organs to which they are applied. Thus, it may readily be presumed, that a burn will in this respect produce a very different effect from a cut, a bruise from a puncture, &c. And that, likewise, according to the particular state of the patient's health at the time,
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very considerable differences will in the same manner take place.

IN what manner these different causes operate, in producing such opposite effects upon the solids or secreting vessels of ulcers, is not, perhaps, to be so easily explained, nor to say precisely what the particular changes they induce upon such parts really are. But, as all the causes of ulcers that we are acquainted with, are of an irritating stimulating nature, it is probable they all act by producing some inflammatory affection on the extremities of such vessels as empty into the fores; and that the nature of the discharge, will in every respect depend much upon the degree of inflammation thus raised.

ONE certain effect of inflammation, has in the preceding Treatise been shewn to be a propulsion of a greater quantity of the red globules of the blood into the smaller sets of vessels, than naturally they were intended to transmit: When this occurs in fores, these being emptied into them, must according to their quantity, and which again will depend on the degree of inflammation, render the discharge very different, both in colour,
smell

smell and acrimony, from genuine pus, which has already been clearly demonstrated to be produced from pure serum only.

FROM this consideration, then it is evident, that many of the varieties in the discharges of ulcers, may, with great propriety, be accounted for; other circumstances, however, no doubt very often occur, that have some influence in producing many of the alterations that are observed. The degree of heat especially, that the part is kept in, as will afterwards be more particularly remarked, and the *remora* of the fluids, for a longer or shorter time in the cavities of sores, must have no small influence in many respects, but especially in the degrees of consistency observed in them.

FROM one or other of these circumstances, or from different modifications of all of them, the different appearances in matter, afforded by wounds and ulcers, may be very satisfactorily accounted for, without having recourse to that inexplicable doctrine of their pre-existing in the system. But although the several differences observed, could not be so certainly accounted for, yet their depending

pending upon some particular affection of the solids in the part affected, seems to be still more evident and probable, than any other opinion hitherto advanced ; and is just as certain, as a great many circumstances under our daily observation, that we cannot in any manner account for, and yet have no sort of doubt as to their reality.

THUS, in what manner the nerves, which in their structure are all so similar, act in the production of hearing, vision, taste, and all the different senses, is, perhaps, impossible ever to determine, as is also the action of the liver, secretory organs of the mouth, ear, &c. in producing fluids of such opposite natures from the same mass of blood, and which did not previously seem to exist in it ; only that the facts are so, nobody pretends to doubt, and till the contrary is evidently demonstrated, we have the same reason to believe, that the different appearances of ulcers with respect to the nature of their discharges, are at least more frequently owing to some of the local causes already enumerated, than to any indispotion of the general mass of fluids.

I HAVE said *more frequently* only, because there are no doubt some particular cases of scurvy and of other putrid diseases, as was formerly remarked, in which the blood is so much dissolved, as to run off by ulcers and other drains, in the form of a bloody ichor ; but such cases very rarely occur except in high degrees of the true scurvy, which in very few situations in any country are not to be often met with, and although they did really happen much more frequently, could never account for all the varieties of matters afforded by ulcers.

THE principal objection, therefore, that has been made to the healing of long continued ulcers, seems on being examined into, no better founded in theory, than, as was formerly remarked on real experience. For, although it has been strongly inculcated by the generality of authors never to attempt the cure of such sores, yet all of them have probably been either biased by that favourite opinion of morbid matter in the system, or, a few having led the way and laid down principles, the rest have indiscriminately copied from them, without having recourse to experience.

NAY it is even imagined, and, indeed, is pretty evident, that long continued ulcers, instead of proving serviceable to the constitution, are not unfrequently attended with a good deal of risk and danger. Thus, it is very common, for ulcers on the shin and other parts immediately upon the bones, to penetrate so deep as to affect the periosteum, and sometimes even the substance of the bones themselves; which always produce very troublesome and often dangerous cariosities; every risk of which is avoided by having recourse to an issue in a proper situation, at the same time, that every advantage is obtained from it as a drain.

THE constitution, must likewise, in another respect, suffer much more from the long continuance of an ulcer, than it ever can do from the substitution of an issue; for, surely, a very considerable part of the matter secreted by ulcers, is, again, taken into the system by the lymphatics, and when it happens to be of a corrosive irritating nature, which, in old sores, it frequently is, not only the general mass of fluids, but even the solids themselves, must in time become greatly vitiated.

AND,

AND, accordingly, there is nothing more common, than very troublesome and even dangerous obstructions of such *external* glands, as are situated in the course of the lymphatics leading from such ulcers; and as the glands seated internally, are undoubtedly, from the same cause, liable to the same sort of affections, it surely cannot be denied, but that, from this circumstance alone, considerable danger may attend a long continued ulcer.

THUS, from every consideration, both with respect to convenience and safety, the cure of every ulcer ought to be attempted; and with the previous caution of inserting an adequate drain, it may always be done without any kind of risk.

So much it was thought necessary to say in general, with respect to the propriety of attempting the cure of ulcers; and I have been the more prolix upon this part of the subject, as the opinion generally received, appears to be very ill founded, and not adopted from experience, but from hypothetical reasoning alone.

WHEN the cure of an ulcer, then, is determined upon, the method to be pursued for its accomplishment must next be attended to. By almost every author who has laid down directions on this subject, four different *states*, as they are termed, are enumerated, as necessary for an ulcer to go through in its progress towards a cure, *viz.* Those of digestion, detersion, incarnation, and cicatrification; and different remedies have been recommended as proper for the different states, and for these only: And, upon this part of the subject, it may be observed, authors have spoke as certainly and as precisely, as if every circumstance, in the treatment of such disorders, were entirely at their command.

THUS, as digestives are pointed out, all the different kinds of turpentine, unguentum *Ægyptiacum*, powders and tinctures of myrrh, euphorbium, aloes, &c. As detergents, unguentum basilicon, linimentum arcaeï, mercurius precipitatus ruber, &c. As promoting incarnation, or the growth of new granulations, powders of Mastich, Thus, &c. And as cicatrifiers to accomplish the cure are recommended, a variety both of simple and of compound applications,

tions, particularly all the astringent boles, earths, lime-water, &c.

SUCH a number of divisions, however, in the several states or stages of ulcers, with the consequent indications of cure, and remedies recommended for the accomplishment of these, has had a considerable tendency to render their treatment more complicated than what in reality is necessary. The indications pointed out, with the remedies recommended in the following sections, will not only be found more simple, but their effects also more considerable, than what, in general, is observed to attend a more complex kind of treatment.

WE now proceed to a particular consideration of the different classes and species of ulcers; and in pointing out the several distinctions, it will be observed, as was formerly hinted, that it is such circumstances only as are exceedingly obvious, and such as, at the same time, indicate and require some peculiarity in the method of treatment, that are allowed to have any influence in characterising a species.

THUS,

THUS, those of the first class, will all of them, in their appearances, be found very different from one another ; and all of them will likewise require something peculiar in the method of cure : And again, those of the second class, it is presumed, are equally well distinguished, and, by similar circumstances, not only from one another, but from every one that with propriety could be considered as belonging to the preceding class.

IN the first division of ulcers are comprehended, as formerly remarked, all such as are merely local, and not connected with any disorder of the constitution ; and, in this view, are considered the following different species, *viz.*

1. The simple purulent ulcer.
2. The simple vitiated ulcer.
3. The fungous ulcer.
4. The finous ulcer.
5. The callous ulcer.
6. The carious ulcer.
7. The cancerous ; and
8. The cutaneous ulcer.

IN the second class of ulcers, are included all such sores as are the consequence of, or that are
connected

connected with any disorder of the system. The different species of which, are, *the venereal, the scorbutic, and scrophulous ulcers.*

It is proposed, as first in order, to go through the consideration of the several species of sores contained in the first class; and to proceed afterwards, in course, to those enumerated in the second division.

SECTION II.

Observations on the simple purulent Ulcer.

§ 1. *Of the Symptoms, Causes and Prognosis of the simple purulent Ulcer.*

BY the simple purulent ulcer, is meant, such as, at the same time that it is entirely a local affection, has the symptoms in common to all such disorders of pain and inflammation, very inconsiderable; whilst the discharge afforded, is always of a mild purulent nature, and of a proper consistence.

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THIS species of ulcer, is fixed upon as the first to be treated of, from its being the most simple that can occur, both in its symptoms and method of cure; and as it is to the state of such an ulcer likewise, that every other species of the disorder must be reduced, before a permanent cure can be expected, I shall be more particular in the observations with respect to it than otherwise might be necessary: And, when speaking upon any of the other species, if the treatment of these shall, at any time, coincide with that now under consideration, proper references, in order to prevent repetitions, will always be made to what may be here advanced.

TOGETHER with the symptoms already mentioned under the definition of this species of ulcer, it is not improper to take notice, that the granulations which arise, are of a firm, fresh, red healthy appearance; and if no unforeseen accident occurs, the cure goes on regularly, and without interruption, till a cicatrix is produced.

IN considering the origin of the complaint, it may be observed, that even this, the most simple species of ulcer, may be produced by a great variety

riety of causes ; but, from the definition given, it will be understood, that they must all be such as act merely by producing a local affection without in the least disordering the system.

IN this view are considered wounds of all kinds, that do not immediately unite without the formation of matter ; and that, whether they may have been attended with loss of substance or not ; under this head are ranked all surgical operations, attended with incision into any part of the body.

AMONG other causes of such ulcers must be mentioned burns, in whatever manner they may be produced, as whether by fire, aquafortis, scalding liquids, &c. Also bruises, and in short every external accident that terminates in suppuration, with an opening in consequence of that.

IT is not, however, by any means intended to assert, that a simple purulent ulcer is always a necessary and an immediate consequence of the different causes enumerated, for the very reverse of that is frequently known to take place. Thus burns especially, are sometimes succeeded by very
troublesome

troublesome vitiated ulcers, as are bruises, and indeed all the causes taken notice of: It is only contended, that some one or other of them may in general be considered as the primary or original production of such ulcers, and that too independent of whatever appearances they may previously have exhibited, before arriving at that state.

WITH respect to the *prognosis* in this species of ulcer, it should almost in every instance be exceedingly favourable, and that more or less so, according as there is much loss of substance or not; and according to the situation of the disorder and habit of body of the patient. These circumstances being attended to, together with what has already been mentioned upon ulcers in general, there will never remain any doubt with respect to the prognostic.

BEFORE proceeding particularly to the necessary treatment of simple ulcer, it will not be improper to make a few general observations upon the manner in which nature seems to operate in accomplishing the cure of sores; as also on the effects of such assistance as may be afforded by art for effecting the same purpose.

§ 2. *Remarks on the growth of new parts in sores.*

THERE is evidently in every ulcer in its progress towards a cure, a growth of parts that tend considerably to diminish any vacancy the complaint may have occasioned. This substance from the granulated form it assumes, has been generally termed Granulations; and, it appears in every wound in larger or smaller proportions, according as the patient is young or old, healthy or otherwise; insomuch that in young plethoric people, the increase of parts is often so considerable, as to rise above the level of the neighbouring teguments, so as to render necessary the use of different caustic applications with a view to suppress them.

WHEN any loss of substance that may have been produced, is thus, as far as possible, filled up, the remaining part of the cure consists in the formation of a cicatrix. This is either effected by nature alone, by her producing an exsiccation as it were, of the surface of such granulations as had been previously raised, and in that manner forming a kind of cuticle or scarf skin; or, is obtained

ed by art from the use of drying astringent applications.

By the formation of new parts, or granulations, as they are commonly termed, it is not here, or wherever the term may be made use of, meant to convey the idea of real muscular or other organised parts ever being regenerated, either in such wounds or ulcers, as they may happen to have been destroyed in ; but merely to express that production, which, it is evident, every ulcer with loss of substance is in a sound body to a certain degree always supplied with.

THE real nature of this production is not, perhaps, easily to be determined ; but, from its several appearances, it is obviously very vascular, which makes it probably to consist in an elongation or extension of the small blood vessels that have been divided, with a considerable proportion of inorganic cellular substance ; which, again, is most likely formed by a matter secreted from the mouths of such vessels, and which serves chiefly as a support or means of connection to these.

WE are not to imagine, however, that any very extensive loss of substance is even with such a production ever to be entirely filled up; for although in particular circumstances, nature does effect the repair of very considerable accidental losses, yet, in general, her operations in this way are very limited. In youth, indeed, before the different parts have arrived at their ultimate increase, and while the several vessels are yet daily extending themselves, pretty large vacancies are often almost completely obliterated; but we ought not even at that period of life to attribute, as is commonly done, such cures entirely to the growth of new parts; for on reflection it appears very evident, that a circumstance of an entire opposite nature always contributes in a considerable degree to their accomplishment.

§ 3. *The decay of the contiguous sound parts, a necessary circumstance in the cure of Ulcers.*

THUS, though in the healing of every ulcer, whether it be attended with loss of substance or not, there is generally, as already remarked, to a certain degree a growth of new parts produced; yet the greatest part of the vacancies, that, in these cases, always

always occur, is evidently more diminished by the decay or decrease of the divided parts that remain, than by any other cause whatever. Indeed, the effect with respect to a cure is ultimately the same as if all such deficiencies were actually supplied with a new substance ; for, if the cavity of an ulcer be diminished, or even entirely annihilated by the subsiding or wasting away of the parts that surround it, there comes then to be no kind of necessity for the formation of others : And in effect, cures are often obtained especially in old people, without any evident growth of parts whatever, and that even in pretty considerable and extensive ulcers.

THIS part of nature's process in the cure of ulcers, is, to a certain degree, obvious even in the smallest sores ; but the larger the ulcer the more evident always it appears ; and particularly becomes exceedingly remarkable in the cure of that very extensive ulcer, which always remains after the amputation of any of the extremities, especially of the thigh.

IN these instances, indeed, there is never any considerable supply of parts observed, and the
cure

cure always evidently advances, just in proportion as the skin is allowed to contract, by the wasting away or decrease of the parts which it surrounds ; and such a decay or diminution of bulk, is not, in any of these cases, confined to one set of parts only, but extends equally to all, the bones perhaps only excepted.

THUS, after the cure of a stump, every vessel, even the largest, is almost entirely obliterated for a considerable extent ; at least nothing is found to remain of them but the thin membranes that composed their coats shrunk into very small inconsiderable cords ; the fibres of the different muscles are, in the same manner, greatly diminished, and the cellular substance seems frequently to be almost entirely annihilated. Several opportunities have occurred for dissecting the stumps of patients after death, and the appearances were uniformly as above related.

THERE is still another case of ulcer, in which the cure seems yet more evidently to be chiefly effected by the influence of the same cause. In a large incised wound, with little or no loss of substance, its edges, in the course of twenty-four hours,

hours, become greatly swelled and tumified ; they are thereby kept at a considerable distance, and the whole exhibits the appearance of a large foul ulcer. In this situation it would remain for a considerable length of time, if either neglected or treated with acrid irritating applications ; so soon, however, as by warm emollient poultices, and other proper dressings, a free discharge of pus is obtained, the inflammation diminishes ; the swelling of the sides of the ulcer subsides, and the fore gradually contracts to such a degree, that its edges, which before were very much separated, are now brought near to one another.

THE same phenomenon, in a remarkable degree, is observable in the cure of every ulcer attended with much inflammation ; where a great part of the treatment consists in removing pain, irritation and swelling, that in such cases always take place.

EVERY small boil even exhibits the same appearances ; an ulcer, upon their being laid open, is always left, and the cure depends chiefly on the removal of the inflammation and *swelling* of the surrounding parts.

THESE,

THESE, however, it may be said, are only several instances of *preter-natural* swellings, which have originally, perhaps, been excited by the presence of some acrid irritating cause ; and, upon the removal of that, such tumifactions very naturally subside, and the ulcers occasioned by them accordingly contract and heal up. The same circumstance, however, has been shewn to take place, even with respect to the substance of sound parts ; particularly, as was already remarked, after the amputation of a member, the blood vessels, nerves, and muscles, in all such cases, constantly suffering a very considerable decay.

THE same occurrence, likewise, happens in all deep transverse wounds that penetrate through the different muscles, so as to reach the bone ; a cure, in these cases, being seldom to be obtained by the first intention, especially when any loss of substance has been produced. In the cure of ulcers that remain after such wounds, an evident decay of the extremities of the divided parts always takes place ; and, what shews it in a remarkable manner, is, that, in all such cases, the vacancies occasioned by the wounds are never
near

near so large and conspicuous immediately after the cure, while the patients yet remain lean and emaciated, as they afterwards become, when, in the course of time, by the recovery of health and appetite, every organ of the body, and, among others, the parts that have been divided, come, in a great measure, to regain their former bulk ; and when, accordingly, all vacancies that have been occasioned by such wounds appear more considerable.

WHEN, indeed, a wound penetrates only into the cellular membrane, or does not entirely divide the muscles, the cavity produced by it, does, no doubt, in the course of time, gradually diminish, so as, sometimes, to disappear altogether ; this, however, is in consequence of the parts below extending in their diameters, which, in the other case of a wound, with loss of substance, penetrating to the bone, never can happen.

THIS opinion, with respect to the cure of wounds, depending, in a great measure, upon the decay of the surrounding parts, was first introduced by a very ingenious French practitioner Mr Fabre ; and, like every new doctrine, has,
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by one party been denied to have any sort of influence, whilst, by those inclined to favour it, much more remarkable effects have been attributed to it, than, on examination, it will be found intitled to.

THUS Mr Fabre, and Mr Louis, another Surgeon of eminence in Paris, assert, that wounds of every kind which do not heal by the first intention, are cured *entirely* by an *affaïsement*, as they term it, or a wasting away of the extremities of such parts as have been divided; and absolutely affirm, that there never does occur any lasting production of new parts in the healing of sores *.

SUCH an assertion, however, is entirely contradictory to every day's experience, and seems to be merely the consequence of lively imaginations, entering keenly into the support of a favourite doctrine; for, although it will readily be allowed, that a very considerable part of the cure in every ulcer, especially in old people, is effected by the cause assigned, yet few practitioners will, probably, deny, but that, in many instances, particularly

* Vid. Memoirs de l'Academie de Chirurgie, tom. 4th.

ticularly in young people, very considerable productions occur, of that vascular substance formerly described; in so much that it is sometimes a troublesome enough matter to suppress such excrescencies, so as to keep them within proper bounds.

As a farther confirmation, that a growth of new parts does, to a certain degree, frequently occur, many very remarkable instances might be mentioned from different authors, of considerable extensive losses being almost entirely renewed by nature. It would here, however, be very foreign to the purpose, especially as it does not appear to be in the least necessary, as, by every candid practitioner, it must be acknowledged, that such occurrences are by no means rare.

THOUGH the opinion, however, cannot be admitted in such an extensive latitude, as those who support it might incline, yet, from the several arguments formerly advanced, it evidently appears to have at least a considerable share in the cure of every ulcer; and from all that has been said with respect to it, this inference, I think, may be drawn: That although the generality of
ulcers,

ulcers, to a certain degree, are supplied with a species of new production, yet the cure of all such disorders depends at least *equally* upon the contraction of the surrounding skin, in consequence of the neighbouring parts subsiding or diminishing in their bulks.

THIS, when there has been any preternatural tumefaction induced, as in scrophulous sores especially, is frequently the case, is effected merely by the dissipation of such swellings; but, in others attended with a real loss of substance, the extremities of even the sound remaining parts, must, as was already remarked, undergo very considerable diminutions.

§ 4. *Of the Effects of Compression in the cure of Ulcers.*

FROM this view of the matter, a very material piece of practice, that was long ago known to practitioners, but which of late has for no evident reason, however, been almost entirely laid aside, comes to be clearly accounted for; I mean the use of the laced stocking in ulcers of the legs, which, by Wiseman and many other old writers, is much recommended with a view of preventing

preventing these œdomatous swellings to which patients, with such disorders, are always liable.

WITH that view, the laced stocking is no doubt to be considered as the most effectual remedy, but it has, in all such cases, I am persuaded, been much more frequently of service, by assisting to accomplish that diminution of the adjoining parts, which has already been shewn to be so necessary for the cure of every ulcer. And, as in this respect it acts merely by the degree of compression afforded, it must evidently be equally serviceable in whatever part of the body sores may be situated; and accordingly, I have constantly found, that ulcers in the arm, and wherever a continued gentle pressure could be applied, have received more benefit from such an application, than from all the ordinary remedies had recourse to.

As it is the pressure therefore only, that, in such cases, is wanted, it is most conveniently made, both in the legs and elsewhere, by means of a pretty broad roller applied spirally, if necessary, from the extremity of the member, to a little above the diseased part; but when no œdo-
matous

matous swellings occur, it generally proves sufficient to make the roller pass from three inches or so below the fore, to an inch or two above it. In this manner, the compression can be made more directly on any particular part, than with the laced stocking, it is more conveniently applied too, and generally gives less uneasiness to the patient.

IN the application of such a bandage, it will readily be understood, that it should always be done in such a manner as particularly to support the skin, so as to occasion as near a conjunction as possible of the different edges of the fore. For, as it is well known, that there never occurs any production of *new skin*, or even elongation of the old, as much as possibly can, should always be brought to cover such soft parts, as by its retraction may have been denuded; for all such as remain uncovered; have afterwards for their protection, a thin scarf skin only, which, in strength, and indeed every other circumstance, is greatly inferior to the *cutis vera*.

By a due attention to this point, much more assistance is to be got in the cure of wounds and
ulcers,

ulcers, than is commonly imagined ; for, in by far the greatest number of situations, every wound not attended with much loss of substance, may be brought to heal by the re-union of the divided parts ; which, in every case that can occur, is by much the most desirable method of cure. When this can be properly accomplished, immediately upon an wound being inflicted, it should always be done ; but very often, when that precaution has either at first been neglected, or has not then been practicable from the parts retracting too much, it may frequently be afterwards effected in a later period of the disorder.

For, in large wounds, when in the course of fourteen days or so, a full suppuration has come on, and the inflammation, which originally took place, has in a great measure subsided, the sides of such wounds, or ulcers as they then are, may, by proper compression, be either entirely united, or at least brought so far to approach one another, as greatly to diminish any vacancy that at first took place, a circumstance which always renders much more short and easy the cure of all such complaints.

IN the application of compression, as a remedy in fores, it will be understood, from what has been already said, that in no species of the disorder is it to be had recourse to, while any considerable degree of inflammation remains; but so soon as that symptom is pretty much removed, it may always be put in practice with the greatest safety.

THE other most remarkable part of the process for the cure of ulcers, as fallen on by nature, we have already observed, to consist in the formation of a certain kind of new substance; the production of which was in some measure attempted to be explained, by supposing it to consist in an extension of the divided vessels, with a large proportion of soft cellular substance. This in a sound healthy state, appears in every fore, in the form of an infinite number of very small tubercles, of a bright fresh red complexion, and, in general, of a tolerably firm organisation.

As in diseased states of the body, these tubercles or granulations, put on very different appearances, according to the particular nature of the complaint they happen to be connected with,
such

such peculiarities as are thereby occasioned in the several species of ulcer enumerated in the ensuing sections, will be all particularly taken notice of; as will likewise the various methods of assisting nature, not only in the correction of the diseased states of such productions, but in carrying on in all such cases the formation of healthy firm parts; for although the production of these is chiefly to be considered as an exertion of nature, yet art in different circumstances is frequently able to afford her very considerable assistance.

THOUGH the means necessary for that purpose will be afterwards particularly pointed out, it will not be improper, in the first place, to make a few observations with respect to their general tendency, so that the operation of all of them, may be then more readily understood.

§ 5. *Of the advantages to be obtained from Art, in the production of Granulations in Sores.*

THE principal advantage, which, in this respect, accrues from art in the cure of sores, is the removal of such causes as tend to retard the natural exertions of the system; and although the
different

different obstructions which nature meets with in her progress are exceedingly various, yet they may all with propriety enough be referred to two general heads ; *viz.* to such as may be considered entirely as of an internal nature ; and to those again that operate merely as external or local causes.

OF the former kind are, every general disorder to which the constitution is liable, as it is by experience found that a sound healthy state of the system only, is capable of producing proper granulations.

THUS in lues venerea, scrophula and scurvy, unless the general affection of the habit is first got the better of, the cures of such ulcers as occur in these, can never be properly effected.

THE system being in a low emaciated state too, either from a very low diet, or from immoderate evacuations, is found to be very prejudicial to the growth of new parts ; for, as the supply of any accidental loss, must render necessary a greater proportion of nutritious matter, than is requisite in a complete state of the system when

there are no such vacancies to fill up ; a patient being in such a situation kept upon a low allowance in point of diet, and, especially, if at the same time, the discharge from the ulcer is considerable, the repair of any deficiencies must, in such circumstances, it is evident, go on much more slowly than when the contrary of these occur. And, in fact, we find, though a very plethoric habit of body with a full allowance of heating nourishing diet, is not proper for the cure of any kind of sores ; yet that an emaciated state and a low debilitating regimen prove equally prejudicial.

A MIDDLE course, therefore, should in all such cases be observed, and the patient kept in a situation at least not much more reduced than in his usual natural health ; but this circumstance must in a great measure be regulated by the particular exigencies of every case, as in some patients of high inflammatory diatheses, every scratch almost is apt to inflame and become troublesome ; so that when in such, any considerable ulcers occur, it is necessary often to keep them on very low allowances.

OTHERS, again, of contrary dispositions, that have been much reduced, and that have no particular tendency to inflammatory complaints, very frequently bear, and are much the better of more nourishing foods than they were formerly accustomed to ; so that it must always depend on the judgment of the practitioner, to point out such courses of regimen, as may seem best suited to the particular situation of every patient.

THE local obstructions, again, that occur to the formation of new parts in ulcers, are of various kinds, but may all be reduced to two general sets ; *viz.* to such as act solely in a mechanical manner by exciting irritation ; and those that are evidently of a corrosive nature.

FROM daily experience, it is found, that granulations in sores, are, *cæteris paribus*, always most quickly formed, when the part is kept entirely free from pain ; and when duly attended to, the reason of this appears sufficiently obvious : For whatever is the occasion of much uneasiness, must excite in the extremities of the divided vessels, as irritation does in every sensitive part to which it is applied, a preternatural degree of action or stricture ;

striction; which is a state entirely opposite to what we have made appear to be the most favourable for the production of new parts; for as that probably consists, as elsewhere remarked, in the elongation of the divided vessels, the more easy and lax these are preserved, the more readily always will such an extension advance.

AND we do accordingly find, that whatever tends to keep up any considerable inflammation in fores, has a certain effect in putting a total stop to the production of granulations.

HENCE the necessity of removing from wounds and ulcers, every extraneous body, or whatever tends to produce irritation; and, from the same circumstance, is accounted for, the great advantage of dressing seldom, with mild simple applications, instead of the practice which formerly in such cases prevailed, of dressing much more frequently, and that too, with very complex irritating ointments and washes.

THE other set of local causes, that tend to obstruct the formation of new granulations, and, which were said to be of a corrosive nature, are
chiefly

chiefly all those vitiated discharges, which by neglect or improper management, are so apt to occur in every ulcer. For, almost, every kind of matter afforded by sores, that differs much in its nature, either in colour or consistence from real mild pus, possesses constantly a greater or less degree of acrimony or causticity; which, in some cases, is so very remarkable, that not only the granulations are eat down and prevented by it from rising, but even the neighbouring sound parts are frequently entirely destroyed.

IN all such disorders, the principal intention to be had in view, is the removal of that acrid state of the matter, at the same time that we attempt its conversion into what is termed laudable pus, the several means for the accomplishment of which, will afterwards in the different sections be particularly enumerated.

THESE different obstacles, to the formation of granulations, being at last removed, nature will always, as far as possible, carry on their formation; and when, in due time, such vacancies as occur in sores, are, either by their means or by the effect of compression, or by both as much as
may

may be supplied, the only remaining part of the cure, as formerly remarked, is the formation of a cicatrix. This too, is frequently, in a great measure, effected by nature, but can often be considerably advanced by the use of proper applications.

WHILST any deficiencies in fores remain to be filled up, and whilst the parts are, for that purpose, still shooting and extending, the very mildest applications, it was remarked, are the most proper ; but, when no more in that way remains to accomplish, by any destruction of parts that occurred being supplied ; or when nature seems to be at a stand, without any prospect of farther advances being made, the same kind of applications, which, in the extending state of the vessels, would have been prejudicial, comes, for that very reason, now to be useful.

THUS all the mild styptic powders and washes, by contracting or corrugating the extremities of such vessels as have been divided, and by producing an exsiccation of that inorganic cellular substance in which these are enveloped, tend to induce over the surface of fores that delicate thin
covering

covering termed Cicatrix; which, though it is at first always very tender, yet comes in time to acquire greater strength, by a farther addition of thickness, from that same cellular membrane it was at first, in a great measure, formed from.

HAVING premised these general observations, with respect to the manner in which the cure of sores seems to be effected, and which apply, in a great measure, to every species of the disorder, we now proceed to the more particular treatment of simple purulent ulcer.

§ 6. *Remarks on the Indications of Cure, and on the Remedies necessary in the Treatment of simple purulent Ulcer.*

IN the cure of this species of ulcer, as there is very little inflammation, and no preter-natural swelling supposed to take place; but merely a vacuity, either from a real loss of substance, or from a retraction of parts simply divided, the discharge, at the same time, being of a mild purulent nature; the only indications that appear necessary, are,

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1st, To diminish, as much as possible, any vacancy the ulcer may have occasioned ; and,

2^d, To induce the formation of a cicatrix.

FOR the more effectual accomplishment of the first of these, the concurrence of two different circumstances are requisite, *viz.* The formation to a certain extent of new granulations ; and the diminution or decay of such parts as lie immediately contiguous to the ulcer,

IT has formerly been shewn, that either a considerable degree of inflammation, or the presence of any acrid corrosive matter, are both exceedingly detrimental to the production of new parts ; so that this part of the cure ought to consist entirely, or at least chiefly, in such a treatment as tends most effectually to the prevention of these causes.

WITH this view, the first circumstance to be attended to, is, to avoid the use of the several warm gums, balsams, and spirituous tinctures, as recommended, in every case of ulcer, by all the
old

old writers, and as still continued by many of the modern foreign practitioners.

FOR although, in some species of ulcers, different articles of that kind may be used, without much inconvenience, and, in certain circumstances, may sometimes even be of service, yet, in every case of simple ulcer, they always do mischief, and, for such sores, should certainly be entirely laid aside; as ought also every application that can occasion much pain or irritation; for whatever has that effect is sure to increase the inflammation, and must, consequently, for the reasons formerly given, always retard the cure. Even the common basilicon, and linimentum arcaeï of the shops, are, for the same reasons, improper; for every ointment with any large proportion of rosin or turpentine, always irritates very considerably.

THE only advantages which, in such cases, ought to be looked for from the use of any ointment, should be, its allowing the different dressings to be renewed with less pain than they otherwise could be; and hence a composition of

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the blandest materials, is, for such purposes, preferable to every other.

IN this view any ointment similar to the unguentum cereum, of the Edinburgh Dispensatory, answers exceedingly well; it being prepared with pure white wax, spermaceti, and fresh olive oil, without any other addition.

THE quantities of each of the articles, as there prescribed, are, four ounces of wax, three ounces of spermaceti, and a pound of oil; a composition which forms an ointment of a very proper consistence, and which ought to be kept in every shop, as the most useful dressing for all the more simple kinds of ulcers.

PLEDGITS of lint, spread thin with such an ointment, are, in general applied, without occasioning the least pain; and the use of it in this manner, indeed, seems never to be attended with any kind of inconvenience; for, however apprehensive some people may be, with respect to *every* oily application turning rancid upon sores, and have, therefore, condemned their use in all such cases, yet an ointment of this nature, I can, from experience,

experience, say, is never attended with any effect of that kind. Nor is it easy to suppose that any such preparation, composed of fresh materials, between the different dressings of sores, which very rarely ought to be more distant than twenty-four hours from one another, can, in the heat of the human body, ever become putrid; which is only, it may be observed, another term for rancidity.

ANOTHER objection too has been made, by different practitioners, to the use of unctuous applications, in the treatment of sores, *viz.* their being apt to render the parts lax and flabby, so as to prevent the new granulations from being so firm as they should, and otherwise would be.

THIS I know, indeed, to be the consequence of a long continued use of *warm* emollient applications, especially of fomentations and poultices; but an ointment of the kind recommended, very thinly spread, never does produce that effect, and always proves a more agreeable application than *dry charpee* alone; which, unless the sores to which it is applied are covered with large quantities of matter, always occasions a good deal

deal of irritation, and, in some degree, is attended with the same effects as gentle escharotic applications ; a circumstance that seems to have been well known to many of the old writers on Surgery, who frequently recommend dry charpee for suppressing the over-growth of parts, when, in the cure of sores, it happens to be too considerable.

IN all such ulcers, therefore, as we are now speaking of, these pledgits, which, at the different dressings, are applied immediately to the sores, should be always spread with some such ointment as that recommended : And, with respect to the renewal of dressings, it may just be observed, that that circumstance should be always regulated by the quantity of matter afforded ; when the discharge is considerable, especially in warm weather, and in large sores, it sometimes becomes necessary to dress twice a-day ; but, in general, once in the course of that time is found fully sufficient. More frequent dressings than are altogether requisite, should at all times be avoided, as the admission of air at each time of changing, always tends to retard considerably the cure of sores, not only by acting as a powerful irritating cause, but

but as tending constantly to vitiate the nature of the discharge.

THE next circumstance of consequence to attend to in this part of the cure, is to endeavour that the matter discharged be preserved in its proper purulent state, both with respect to colour, consistence and every other quality ; for unless very particular attention be given to this point, the best conditioned matter always degenerates sooner or later into a worse kind : And as matter of a real purulent nature, is the mildest and least acrid discharge that ulcers ever afford, every precaution should be fallen upon in all such disorders, to preserve a continuance of it in that state.

IN the simple species of ulcer now under consideration, the principal attention which, for that purpose, is requisite, is the preservation of a due degree of heat in the part affected ; this, in whatever part of the body the disorder is situated, is exceedingly necessary, but more particularly so in the extremities, than any where else ; the natural heat of these parts, not being near so considerable

considerable as in the trunk and other situations, where the action of the heart has more influence.

IT has formerly been shewn in the treatise on inflammation, how necessary a proper degree of heat is for the formation of pus in every case of abscess; and as the same circumstances occur in ulcers, to render it in them equally beneficial, it should always therefore be very particularly attended to, the want of a due regard to this circumstance alone, very often occasioning the degeneracy of simple ulcers into those of much more inveterate dispositions.

WHILST any degree of inflammation remains in ulcers, the best mode of applying heat is by means of warm emollient cataplasms; but so soon as that is tolerably got the better of, these should be immediately laid aside; for, in consequence of their very powerful relaxing qualities, a too frequent and long continued use of them, is apt to induce an over-laxity or want of tone in the parts to which they are applied. And the same purpose may be then answered equally well, by applying over the dressings, thick quilted coverings

verings of wool, cotton, or of any such substances as most effectually retain heat.

THE good effects resulting from a proper attention to this circumstance, I have on many occasions experienced; and although it may not be of so much importance in cases of simple ulcers merely, as in those of more inveterate natures, yet even in these it should never be omitted.

IN almost every species of ulcer, poultices in one part of the cure or another, are found to be very useful applications; and although, in such as are attended with much inflammation, they may no doubt prove serviceable by their softening emollient properties, yet the degree of heat they afford to the part, by its effects in promoting a good suppuration, is, I am persuaded, independent of every other circumstance, the greatest advantage they ever produce.

BUT poultices, when used with this intention, unless they are much more frequently renewed than they generally are, rather do harm than good; for, in order to obtain all the advantages that

that may be derived from them, they should be renewed at least every three hours : But this subject having been more fully treated upon, in the essay on inflammation, it is not now necessary to enlarge farther upon it ; for the same observations then thrown out, with respect to the effects of heat in promoting suppuration, apply with equal force and propriety here.

THESE different circumstances, *viz.* The prevention of irritation by very mild dressings, and the preservation of a proper degree of heat in the part, are the most certain means both for promoting the growth of new parts, and for obtaining and keeping up a discharge of good matter. They should both, therefore, be all along particularly attended to, either till there does not seem any farther deficiency to fill up, or till the farther production of parts seeming at a stand, nature appears to have effected as much as, in such circumstances, she possibly can.

THE other most material part of the first indication in the cure of ulcers, is to be obtained, as was already observed, by means of gentle compression ; and this, it may be remarked, is to
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be had recourse to, and should be going on at the same time with the several applications already mentioned ; for, so soon as the inflammatory state of an ulcer is over, and a discharge of good matter is induced, slight compression, by means of a roller, as was formerly recommended, may be immediately applied, and should be continued during all the remainder of the cure. It should be applied too, as was then directed, in such a way as not only to act as a gentle pressure upon the parts immediately surrounding the ulcer, but likewise to serve as a support to the skin and other teguments, so as to prevent their retraction, which otherwise, in large ulcers especially, is very ready to happen.

WHEN, by a proper attention to the most material circumstances in the treatment, and on the necessary remedies being continued for a longer or shorter period, according to the size of the sores and habit of the patient, any loss of substance which occurred being at last as far as possible supplied, the next indication of cure comes then to be attended to, and that is, the formation of a cicatrix.

It was formerly observed, that a cicatrix is frequently effected by nature alone ; but, in many cases, when every deficiency appears to be even thoroughly supplied, yet still a cure is tedious in accomplishing ; the surface of the sores remaining raw, and, at the same time, discharging considerable quantities of matter. In such cases, it becomes necessary, to lay aside the ointment recommended for the preceding part of the cure, and to use one of a more styptic drying nature.

In this view, the *unguentum album* prepared with *cerufs*, as ordered in different Dispensatories, answers exceedingly well ; fully better, indeed, I have often thought, than the *cerat. e lapide calamin.* so commonly had recourse to in all such circumstances. Lime water too, often proves a very effectual application in this situation of ulcers ; the surfaces of the sores being bathed once or twice a-day with it, and, afterwards, dressed with *cerufs* ointment, a cure is thereby in general soon effected.

On some occasions, again, a proper cicatrix is prevented from forming, by the growth of new granulations being so considerable as to rise above the
surface

surface of the neighbouring sound parts. In such cases, it becomes necessary, to have recourse to different astringent or even escharotic applications, of which, the most effectual among the milder caustics, is blue vitriol ; which, unless in very obstinate cases, almost always proves sufficient ; and when it happens to fail, nothing weaker than the common caustic stone, is ever found to prove effectual.

IN slight cases of this kind, indeed, a cure is often effected by the use of dry charpee alone ; a pretty tight bandage being at the same time applied over all.

IN the preceding observations, have been enumerated, such *local* applications, as have been found most effectual in the cure of ulcers ; but there are some circumstances, though of a more general nature, are yet equally necessary to be attended to.

IN every species of ulcer, even the most simple, rest of body, especially of the part affected, is particularly requisite, insomuch that unless that circumstance be attended to, all the applications
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that can be had recourse to, prove of very little consequence. In disorders of this kind too, that occur in the lower extremities, the limb itself should be always kept, as much as possible, in a horizontal position, as being the posture which favours most the circulation of the fluids.

REST, and an horizontal posture, for the cure of ulcers in the lower extremities, have by practitioners in general, both antient and modern, been looked upon as absolutely necessary: In some late publications, however, it is asserted, that rest is so far from being a *necessary* requisite in such cases, that patients cure just as easily and certainly while going abroad, as when under the strictest confinement.

IN some very slight ulcerations, this may some times be the case, and with the assistance of a pretty tight bandage or laced stocking, applied so as properly to support the parts, even sores of a worse kind may be frequently brought to cure, and the patient, at the same time, be allowed to take gentle exercise. But, in general, so far at least, as my experience goes, the regulations upon this point, enjoining strict confinement, in every

every ulcer of the extremities, as handed down to us by all the antient writers, appears exceedingly well founded ; for, according as they are more strictly attended to or not, the cure commonly advances quickly or otherwise.

IN almost every case of ulcer, particular directions have been given by practitioners, with respect to regimen ; and, in general, a low meagre course has been prescribed. Such regulations, however, when carried any great length, almost constantly do mischief ; as they seldom fail of relaxing the habit considerably, which always of course affects not only the discharge, but every other circumstance relating to the fore.

THE only attention, which, in this respect, seems necessary, is to see that *no excess* either in eating or drinking be allowed ; for, whatever has the effect of producing merely a slight temporary fever with any additional inflammation, proves, in such cases, always very prejudicial, and should, therefore, be avoided. But, in place of a diet *much lower* than usual, as is most frequently recommended, a more full nourishing regimen, than the patient even in a state of health

health has been accustomed to, is often found serviceable.

FOR, the discharge of purulent matter proves always so very debilitating, that, in large ulcers, when great quantities of it are afforded, that circumstance alone, generally weakens the patient too much, if the constitution is not at the same time rendered able to support it by a full nourishing diet. And, it is constantly, indeed, found, that the cure of such sores, goes on much more easily when the patient is kept in his usual habit of body, than when his system is much emaciated by a very low allowance ; nay, I have had many opportunities of observing ulcers of even the worst kinds, being soon brought to heal, by the allowance of a good generous diet alone, after they had obstinately resisted all the usual applications and remedies.

FOR the same reasons that a low regimen is condemned, the use of purgatives, and in general, whatever tends to weaken the constitution are improper. Nor does it ever happen, if proper attention be paid to the different circumstances already pointed out, that internal medicines of any kind are necessary in this species of ulcer.

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SECTION III.

Observations on the simple vitiated Ulcer.

THE simple purulent ulcer, as described in the preceding section, being the mildest, and, if the expression may be used, the most *natural* species of the disorder that can occur in a healthy body, every deviation from it might be considered as a vitiated state. But those here meant to be comprehended under that denomination, are such as differ from it *chiefly* in the appearance and nature of the discharge afforded. All such as have any remarkable peculiarity of the solids, as they require each of them a distinct and separate method of treatment, so they are allowed, as was formerly remarked, to constitute so many distinct species of the disorder, and will, accordingly, be all separately taken notice of.

WHEREAS, those which differ from the more simple ulcer, only or chiefly in the nature of the discharge, as they require all nearly the same method

thod of cure, and as these differences are merely accidental, they have not, for these and other reasons as was formerly remarked, had any influence in forming different distinctions.

§ 1. *Of the Symptoms, Causes and Prognosis, of the simple vitiated Ulcer.*

THE most common appearances of such deviations, in the matter afforded by ulcers, from the more natural state of purulent matter, are,

1. A thin, limpid, sometimes greenish discharge, termed Sanies:

2. A somewhat red coloured, thin, and generally very acrid matter, termed Ichor. And,

3. A more viscid glutinous kind of matter called Sordes.

THIS last, too, is frequently of a brownish red appearance, somewhat resembling the grounds of coffee, or grumous blood mixed with water. They are all of them much more fætid than purulent matter, and none of them are altogether free

free from acrimony ; but that which has generally been termed Ichor, is by much the most acrid of any of them, being frequently so sharp and corrosive, as to destroy large quantities of the neighbouring parts.

IN every ulcer discharging any of the above-mentioned matters, in consequence of the acrimony that subsists in these, the parts, in place of filling up with fresh granulations, waste away more and more, and instead of a red healthy complexion, have either a dark brown, or sometimes, a black, tough, sloughy appearance. The pain in all of them is considerable, and, generally, more or less so, according as the matter afforded is more or less corrosive.

As causes of this species of ulcer, may be mentioned, all those taken notice of in the preceding section, *viz.* wounds in general, burns, bruises, and in short all such as were enumerated as causes of the simple purulent ulcer ; for even that species of the disorder, however mild it may have been, either by being neglected, or dressed with improper irritating applications, very rea-

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dily degenerates into that we are now speaking of.

It is not improper here to observe too, that such changes in ulcers, from the simple to those of a more inveterate kind, happen much more frequently in particular parts than in others; thus all such as are seated on the tendons or aponeurotic expansions of the muscles, from these parts not naturally affording that species of serum necessary for the formation of good pus, always prove much more troublesome and inveterate than those seated in the cellular membrane, where a plentiful secretion of a fluid proper for that purpose generally takes place.

ULCERS, such as those now under consideration, that are merely local and not connected with any disorder of the system, when they have not been of long standing, and more especially when in young healthy patients, should always have a favourable prognosis. But, when the contrary of all these circumstances take place, when the patient is very old, the ulcer extensive, inveterate, and of long standing, the prognostic

nostic in such cases, should always be very doubtful.

§ 2. *Of the Cure of the simple vitiated Ulcer.*

It was already remarked, that vitiated matters in ulcers proceed, in general, from some particular affection of the solids, or secreting organs in the parts diseased ; whereby such kinds of fluids are separated from the blood, as cannot be converted into good pus. The nature of this affection too, it was then endeavoured to discover, and, from the several arguments advanced, it appears evidently to consist in different degrees of increased action or inflammation of the parts diseased, occasioned by one or other of the several exciting causes which give rise to ulcers.

INDEPENDENT too of what was formerly advanced in support of the opinion, it seems to be farther confirmed by the nature of the different remedies found most effectual in the cure of such disorders ; which are mostly of that kind, as have evidently very powerful effects in easing pain, and abating irritation.

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THUS warm emollient fomentations, and cataplasms, in a very short while, sometimes, even in the space of twenty-four hours, will, frequently, not only give the patient a great deal of relief from pain, but produce even a considerable change for the better, in the nature of the discharge; and, by being continued for a longer time, till every inflammatory tendency is thoroughly removed, will, very frequently, without any farther application whatever, convert the matter, however bad it may have been, into a natural laudable pus.

THE most proper method of proceeding, therefore, with all such ulcers, is to foment the parts three or four times a-day, for half an hour at least each time, with any emollient decoction; and then to apply pledgits of the wax ointment, as was formerly recommended, with warm poultices over all, to be renewed as frequently as they turn cold.

TOGETHER with these external applications, when the pain is very considerable, as nothing more quickly promotes the cure of such disorders than the removal of pain, opiates internally are,
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in such circumstances, often used with very great advantage, and should always be given in such doses, and these to be as frequently repeated as circumstances may seem to indicate.

THE habit of body must, in the mean time, be also attended to, and particular directions, with respect to it, given according to the patient's immediate situation. Thus, when from a long continuance of an ulcer, or from any other cause, the constitution has been much reduced, we ought, by a full allowance in point of diet, to endeavour to repair it; and when, on the contrary, the patient is of a full plethoric habit, and liable to inflammatory affections, it then becomes proper to keep him rather upon a low regimen.

It is in ulcers of this kind which occur in the former of these circumstances, *viz.* In low reduced habits, that the Peruvian bark proves most efficacious; in such sores, indeed, it acts frequently as a sovereign remedy, and particularly in effecting a change for the better in the nature of the discharge.

THE bark, however, in order to produce such an effect, requires to be given in much larger quantities than, in general, it usually is : It seldom, in any complaint of this kind, is given to a greater extent than three or four doses a-day, of a scruple or half a drachm each ; whereas when any remarkable advantages are expected from it, six or eight doses of a drachm each, should always be given in that space of time ; and, in such quantities it seldom fails of proving a very effectual remedy.

IT must be observed too, that in the manner directed, very little more of the remedy ever becomes necessary, than what, upon the whole, is generally allowed in the usual way of giving it in small doses, for with large doses, and these frequently repeated, more real good effects are commonly obtained in the course of twelve or fourteen days, than are generally observed from its being continued a great number of weeks, when given in small doses.

IN such cases of ulcers, however, as occur in what are called inflammatory constitutions, and in plethoric habits, the bark must be used with
greater

greater caution ; and, in these circumstances, indeed, should seldom be given to any extent, till the inflammatory tendency is pretty much got the better of.

THE several circumstances in the cure, as already enumerated, being all duly attended to, whilst, at the same time, the part affected is kept at rest, and in a proper posture, it rarely or never happens that the discharge is not soon converted into good pus ; and when once that is thoroughly accomplished, every other appearance of the sore, in a very short time, generally changes for the better. At least this is commonly the case, unless the ulcer happens to be connected with some general disorder of the system, a circumstance we do not here suppose to occur, and which would constitute, indeed, a different species of sore from that now under consideration.

So soon as the discharge is converted into a proper suppuration, the most material part of the cure is then, in a great measure, effected ; for the parts being no longer corroded by a constant immersion in an acrid matter, but, on the contrary,

contrary, being covered by the most natural balsam that can be applied to them, commonly soon put on a red healthy complexion; and new granulations being then at liberty to form, any loss of substance which occurred, comes as far as possible to be supplied, and that in a longer or shorter space of time, according to the depth and size of the ulcer, situation of the part affected, age and habit of the patient.

SORES of this kind being by these means reduced to the state of simple purulent ulcers, are to be treated, during the remainder of the cure, exactly in the same manner as directed for such in the preceding section. That is, with very mild dressings, at the same time that due attention is paid to the preservation of a proper degree of heat in the parts, together with the use of a continued gentle compression, from the time of the inflammatory symptoms having been thoroughly removed.

It frequently happens, however, in this as in every species of ulcer of long standing, that although the parts, by proper management, may have been brought to put on a very healthy appearance,

pearance, and although the discharge has, from a very bad sort of matter, been converted into the best kind of pus, yet still the sore cannot be got to cicatrise, but continues to discharge as plentifully as ever.

WHEN, in such a situation, the different directions, given in the last section, with respect to the cicatrification of sores, do not succeed, as may frequently be the case, *an issue* of a proper size inserted in any convenient situation, will often do more towards the accomplishment of a cure, than all the applications which are generally used in such cases.

AND, indeed, in old habitual ulcers of every kind, nothing but the introduction of adequate drains will ever produce permanent cures ; for although, by the use of drying astringent applications, the sores may be got covered over with a thin cicatrix or scarf skin, yet, in these instances, such cures are never of any long duration.

FOR, independent of the danger to the constitution, from the practice of healing old drains before new ones are inserted, any cicatrices ob-

tained in that manner being very weak, generally soon burst open, in consequence of that redundancy of fluids that must always be soon induced in the system, by the retention of a very considerable quantity of serum, which, for a long time, the constitution had been accustomed to get free of, for the supply of pus to the ulcers.

IN all such ulcers, therefore, and indeed in every species of the disorder that has been of long standing, the first part of the cure ought to consist in ordering an issue, of such a size as may afford a quantity of matter, in some degree proportioned to that which the sore has generally yielded. And, although the situation of such drains has commonly been chosen as near to the part affected as possible, yet, provided the same quantity of matter be discharged, the situation of the issue is not probably of much consequence; and therefore, that which is most convenient for the patient may be always fixed upon.

THE issue having discharged for some time, and the different remedies, formerly recommended,
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ed, being still continued, the cure of such ulcers will, at last, be commonly compleated.

IT is in this species of ulcer, chiefly, that nitre has, of late, been so much recommended ; but, although I have given it, in this as well as in other kinds of sores, in very considerable quantities, and with every necessary precaution, I cannot say that I ever observed any evident effects produced by it.

SECTION IV.

Observations on the Fungous Ulcer.

FUNGIOUS excrescences frequently occur in different species of ulcers, and very often proceed such lengths as to constitute very different complaints, both with respect to their appearances, effects, and treatment, from the sores which originally gave rise to them ; and this is the reason for allotting a separate section for their consideration.

§ 1. *Symptoms and Causes of the Fungous Ulcer.*

By the term *Fungus* is understood such preternatural risings of the parts in sores, as are commonly more soft and spongy than sound healthy granulations; which, though *in general* they do not acquire any *great* degree of bulk, yet by very long continuance and neglect, do, in some instances, arrive at very considerable sizes. And although, as was observed, they are generally at first lax and soft; yet, when of long duration, they likewise, in some cases, acquire very firm and even unnatural degrees of hardness.

THE pain attending them is not commonly considerable, though, in some instances, it is otherwise; and the discharge afforded by them varies according to the species of ulcer they happen to be connected with.

THUS, when a hyperfarcosis, the term commonly used for such risings in sores, occurs merely from neglect in a simple purulent ulcer, the discharge frequently continues all along tolerably good; and, on the contrary, when connected with an ulcer discharging any of the least acrid
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of the vitiated matters, as in some instances is the case, the discharge most readily still continues to be of the same nature.

WITH respect to the causes of the disorder ; when speaking of simple purulent ulcers, it was observed, that in a healthy state of body, and especially in young people, the new granulations that form in such sores, are very apt to push forward too much, so as to rise above the surface of the neighbouring parts. This, by attending to the directions then given, may almost always be effectually prevented ; but if, in such circumstances, the sore is neglected, and the parts are allowed to advance much further, the disorder we are now speaking of comes then to take place. And if not attended to for yet a still longer time, as with poor people especially is frequently the case, even this the most simple species of fungus, degenerates into a very troublesome disorder ; it being in this manner, that the very hardest excrescences are commonly produced.

ANOTHER variety of the complaint arises in the cure of wounds and ulcers of different kinds,
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from not attending to their being found at bottom before the new granulations are allowed to proceed any length. In this manner, whether from any sinus being left unfilled up, or from any corrupted parts that may not have been thrown out, continuing to act as extraneous bodies, the granulations that first appeared, still continue to advance; but instead of cicatrising when on a level with the neighbouring sound parts, go on rising considerably beyond them, till the disease now under consideration is pretty far advanced.

AND, when in this way a fungus has been given rise to, it continues to increase from day to day, till the cause which originally produced it is discovered and removed, either by art or nature, in consequence of a plentiful suppuration being formed below, and bursting out; which, by laying open the seat of the complaint, gives room for a proper treatment to take place.

§ 2. *Of the Cure of the fungous Ulcer.*

By a proper attention to the case, and to the two different sets of causes mentioned, it will, in
general

general, be easily discovered from which of the two the disease has originally proceeded ; and so soon as the cause is distinctly known, the method of cure to be pursued, is just as certainly determined ; which, till then, could not with propriety be set about, as in the two different cases, the remedies necessary, are exceedingly opposite.

WHEN it is found, that the complaint has proceeded merely from an overgrowth of parts, and that there is no disease lurking at the bottom of the sore ; when the fungus is of a considerable breadth, and, especially, when it does not rise to any great height, the use of escharotics should be immediately had recourse to.

OF such applications, a great variety have been recommended ; by many even the actual cautery has been proposed ; and by others, we are directed to remove at once all such parts by the scalpel.

EITHER of these methods, would, no doubt, in every case, prove very effectual, and a great deal more expeditious than any other that can be fallen upon ; but, the very appearance of either
of

of them, carries with it so much cruelty, as effectually to prevent, almost every patient, from submitting to such an operation; and that the more readily, as it is known to every one, that such complaints, can be just as certainly, though, perhaps, not so quickly removed, by means of much more gentle remedies.

OF all the artificial caustic preparations, enumerated by authors, *causticum lunare* is, for such purposes especially, by much the best. It acts more quickly, and is not attended with more pain than many of the milder sorts; we are always sure of its doing the business effectually, which is not the case with any of the others; and it is not near so apt to run, and spread over the neighbouring parts, as some of the other compound forms of caustic, which is, frequently, a very troublesome circumstance attending them.

A SLIGHT touch every second or third day, with this kind of caustic, will, in a longer or shorter time, according to the size and texture of the rising, almost, always, at length get the better of such complaints. After the application of the caustic, the parts should be covered with dry lint, and

and not, as is commonly done, with any kind of unguent, which always tends considerably to destroy the activity of such remedies.

WE have hitherto been supposing, that the surface of the fungus, is of considerable extent, and that it is not to any great height raised above the contiguous sound parts ; but whenever the reverse of these circumstances take place, *viz.* a narrow base, and the height of the excrescence considerable, the most expeditious and easiest method, then, always is, to take it off by ligature ; which being applied at its root tolerably tight, and straitned a little every day, soon destroys the circulation in the swelling so entirely, as to cause it in a short time to drop off.

WHEN the rising is, as was observed, narrow at the base, and especially, when it is in the least pendulous, a ligature can be applied and kept on with the greatest ease ; but when the tumor is broader below than above, it is not possible without some assistance to prevent its slipping off. It may always, however, be certainly and very easily effected in the following manner.

A strong straight needle, with an eye near its point and fixed in a handle, being pushed through from one side of the tumor to the other at its base, and having two strong waxed threads introduced at its eye, is to be again drawn back, leaving the threads with their ends hanging out at each side of the swelling. In this situation, a firm ligature is to be formed, round one half of the tumor, by the two extremities of one of the threads; and with the other two, the other half is in like manner to be comprehended; and each of them being from time to time properly tightened, both halves of the swelling, will, in general, very soon fall off. The hint of the practice here recommended, was taken from the description of a curved needle of this kind, recommended by Mr Chesledon, for the extirpation by ligature, of diseased tonsils, which, without some such contrivance, could never with propriety be attempted.

THE fungus being by either of these methods removed, the sore is then to be treated as was formerly directed for the management of simple purulent ulcers.

THE other species of fungus taken notice of, that proceeds, as was observed, from the new granulations in ulcers not being raised on a sure foundation, purulent matter or some other extraneous body being lodged at the bottom of the sore, is, in general, very easily distinguished from the preceding. It rises with much greater rapidity, and is not near so firm ; being, on the contrary, always more soft and flabby than healthy granulations.

By attending to these, and all the other circumstances of the ulcer, the cause can seldom remain long in doubt, and so soon as it is discovered, the first thing to be done, is, by a proper opening, to give free vent to the confined matter. After which, by taking care, that the sore fills properly up from the bottom, the cure will go easily on in the ordinary way. Nor unless the fungus has been very considerable, can there ever be any occasion for the use of escharotics, for, in such cases, the granulations are commonly so soft and spongy, as to waste away of themselves in the course of the cure, without any assistance whatever from caustics.

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THESE, in general, are the only cases of fungus that in local ulcers ever prove troublesome, excepting, perhaps, that which occurs as a symptom in carious ulcers, and which, in its proper section will be taken notice of. These species now described, indeed, might no doubt be considered as symptomatic, and for that reason, it may be said, they should not be allowed to constitute distinct complaints; for the reasons formerly given, however, and particularly from their treatment being very different from that which is necessary in any other symptom of ulcer, it was thought proper to allow them a separate section.

S E C T I O N V.

Observations on the sinous Ulcer.

§ 1. *Of the Symptoms and Causes of the sinous Ulcer.*

BY sinous ulcer, is meant that species of fore with one or more openings running into it, from chinks of the same, or of different directions ;

tions ; and which generally are seated in the cellular membrane, between the common teguments and muscles, or between the interstices of the different muscles themselves.

THESE different sinuses serving as reservoirs, both for the matter formed in the body of the fore, and for that afforded by the sides of their own cavities, makes the discharge of all such ulcers, when, by pressure, the matter is emptied into them, appear much more considerable than in reality it ever is.

A sinus, as thus described, is the most simple state of the disorder, and is, by long continuance, or by the use of drying astringent applications, liable to become hard and callous in its internal surface ; and, in such a state, from its supposed resemblance to a pipe, is termed a fistula ; of which nature is the *fistula in ano*, a well known troublesome disorder.

THE most frequent cause of sinuses forming in ulcers and abscesses, is the want of a free vent to the discharge ; which, as it naturally falls to the most depending situation of the part, if it is
not

not there, "as it ought to be, let out, very easily insinuates itself into the soft yielding substance of the cellular membrane, and proceeds on gradually till it some where or other finds an opening, either externally, or into some of the neighbouring cavities.

VERY tight bandages too, applied directly upon ulcers, if they are not made to act likewise upon the neighbouring sound parts, for some way both above and below the sores, are not unfrequently attended with the same effect; and, in such a way, therefore, should be always avoided.

IN every case of recent sinus, and even, in general, in those of longer standing, if they can be easily and freely got at, with proper applications, and when the constitution, in other respects, is healthy, we may almost always venture upon a favourable *prognosis*. But when the complaint has been of very long continuance, and especially when the different sinuses open into any of the joints, or are much out of the way of operation; in such cases, a cure becomes both very difficult and doubtful. Nor is there, indeed, any complaint that more frequently baffles practitioners,

tioners, than some species of this disorder, particularly the *fistula in ano*.

§ 2. *Of the Cure of the sinous Ulcer.*

IN recent complaints of this nature, we are directed by all the old writers, as also by many of the moderns, to make use of what they call vulnerary or healing injections. And, in the more advanced states of the disorder, when, by long continuance, the sides of the different sinuses have become callous, *escharotic* injections and powders have been recommended: But none of these have ever been found to produce any real good effects, and a too frequent use of them has often rendered hard and callous such sinuses as before were of the most simple nature.

OTHERS again have advised, in every case of this nature, especially when the complaint is at all of a fistulous nature, to lay the different sinuses open, from one end to the other, and, by cutting out all the hardened parts, so to convert the whole into one common ulcer, and to proceed afterwards with the cure in the ordinary manner.

THIS method will, no doubt, very frequently effect a cure ; but, independent of the great pain, and very large unseemly cicatrix which it is always the occasion of, it cannot, in every case, with safety, be put in practice.

THUS, when sinuses run very far up the rectum, it can never conveniently be done ; and when, as is frequently the case, they penetrate deep, and run below either large blood-vessels, tendons, or nerves, it would never surely, in these cases, be adviseable to have recourse to such treatment.

BUT although the practice was even altogether free from danger, it ought, in almost every instance, to be laid aside, since we can by a much more simple and less painful operation, be always as certain of obtaining a cure as we ever could be, either by a simple incision, or by the entire destruction of parts.

THE intention of cure, in every case of sinus, is to produce a coalescence of its sides, so as to destroy any vacuity that may have occurred.

AND

AND the most effectual means for accomplishing this, is, first to make a depending orifice for a free exit to the matter; and then, by a gentle irritation, to induce, on the internal surface of the sinus, a slight degree of inflammation, which, by experience, is known to be that state most favourable to the production of adhesion between any two parts; so that a firm union of the sides of the sinus to one another may, in due time, be obtained.

Now, both these intentions are fully answered by the introduction of a seton from the orifice in the ulcer, along the course of the sinus to its other extremity; where an opening, large enough for the discharge, ought to be made in the manner formerly directed in cases of abscess.

THE cord of cotton or silk ought at first to be pretty large, more or less so according to the capacity of the sinus; to be diminished gradually, as the cure advances, by taking away a thread or so from its thickness every second or third day. And at last, when the discharge is greatly lessened, by the vacuity occasioned by the sinus being mostly filled up, the seton should be totally
D d withdrawn,

withdrawn, and a bandage, somewhat tight, being applied over the part, and continued for some time longer, a complete cure will, in general, be, in due time, effected.

THE first step to be taken, then, in all cases of sinus, is to discover the direction in which they run, and which may commonly be easily done, either by the introduction of a probe, or by observing where the matter points, on being allowed to collect for some time, and from whence it comes, on the parts being pressed. And into every sinus that opens into the ulcer, a seton, as above directed, should be introduced.

THIS method of curing sinuses, by the use of the seton, is free from all manner of danger, and is admissible in almost every case of sinus that can occur. Even when sinuses run deep among the muscles and blood-vessels, and when it would be unsafe, therefore, to use either the scalpel or acrid injections, setons, by means of the director, as formerly directed for abscesses, may be always had recourse to with the greatest safety.

THE practice here recommended is seldom found to fail in any case of simple sinus ; and it, in general, even answers in such as are considered as real fistulæ.

IF it was not for the inconvenience which this application would, in that situation, always occasion, I have no sort of doubt but the seton would prove a much more effectual remedy in cases of fistula in ano, than any other that has as yet been employed. In similar cases of this kind that occur in the perineum, I have known it used with the greatest advantage ; and it is in that situation, indeed, particularly proper, as the cicatrix formed after the opening of a long sinus, in the common method with a scalpel, proves there frequently more troublesome and painful to the patient, than even the original disease it was intended to remove.

THE sinuses, by these means, being at last removed, the ulcers they have been connected with are then to be cured in the ordinary manner, as directed in one or other of the different sections, for the species of sore they may happen to belong to.

THIS part of surgery, it may be observed, is much indebted to the ingenious Mr Pott, for the simplicity he has been, in a great measure, the means of introducing, in the treatment of fistulous complaints in ano and in perineo. In all of which, as was already remarked, it used formerly to be, and with many, indeed, still is the practice to cut the affected parts out entirely, whether they are much hardened or not; which not only occasions a great deal of unnecessary pain, but very seldom produces such an agreeable or speedy cure as is obtained by merely laying the parts open with a simple incision; and which is all that, even in the most obstinate cases, should be ever attempted. For, if a cure cannot be obtained by such an operation alone, or by the seton, when it can be used, as we have lately advised, cutting out the parts never will effect it, unless they are all evidently in a schirrous state; in which case extirpation of the diseased parts may, no doubt, in some cases, be necessary.

S E C T I O N VI.*Observations on the callous Ulcer.*

§ I. *Of the Symptoms and Causes of the callous Ulcer.*

AN ulcer is said to be callous when its edges, instead of contracting, and so diminishing the size of the sore, keep at a stand, turn ragged, and at last, by acquiring a preternatural thickness, often rise considerably above the level of the neighbouring parts : And, as it is generally from neglect, or improper treatment, that ulcers do turn callous, the discharge afforded by them is commonly a thin vitiated matter,

It is in this species of ulcer chiefly too, that varicose veins occur as a symptom, especially when the complaint is seated in the lower extremities. This seems to be owing not only to the difficulty the blood, in such situations, meets with in its return to the heart ; but, in a great measure,

sure,

sure, to the stricture occasioned by the callosities on the course of the different veins; a circumstance which, in extensive sores of this kind, must, no doubt, have a considerable influence.

By many, even late writers, this species of ulcer has been always termed *Varicose*; from their supposing such sores to proceed from, and to be as it were, fed by matter furnished to them from these swelled veins, which, frequently, to appearance seem to open into them*.

THIS error, however, it is evident, must have proceeded from want of attention to the cause of such swellings in the veins; together with a mistaken notion with respect to the formation of pus and other kinds of matter; which were formerly, in general, supposed to circulate with, and to be deposited from the blood; but which has already been demonstrated in the preceding essay, to be an opinion entirely void of any real foundation.

WITH respect to the causes of callosities in ulcers, it may be remarked, that they may all be
reduced

* See Turner's Art of Surgery, Vol. 2. page 3.

reduced to the general head of neglect and improper management. When fores are injudiciously treated, either by irritating, or by very relaxing applications, or when entirely neglected, so that fungous excrescences are either allowed to arise, or different dressings and other extraneous bodies are left to remain too long in their cavities; such substances come at last to stand greatly in opposition to the farther diminution or contraction of the ulcers. And, the small vessels of their edges being thus prevented from proceeding farther in a proper direction, push upwards, and sometimes even backwards, till, in consequence of the usual pressure from the necessary bandages, they naturally come to acquire a morbid hardness or callosity; and which, so long as it is allowed to remain, very effectually prevents the accomplishment of a cure, however judiciously the fores may in other respects be treated.

§ 2. *Of the cure of the callous Ulcer.*

FROM the consideration of the fore-mentioned cause of the disorder, the first step towards a cure, it is evident, should consist in its total removal.

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THUS any improper applications, which, till then, may have been used, should be immediately laid aside ; and if any fungous or other extraneous body, appears to be doing mischief, these and every other obstruction to a cure, ought as soon as possible to be removed. This being thoroughly accomplished, and the sore brought to a clean healing condition, the different callosities are then to be destroyed, for till that is completely effected, it is in vain by any kind of application to expect a cure.

IN very recent instances of such complaints, warm emollient cataplasms continued for a proper length of time, will sometimes by softening the callosities, without any other application, answer every intention of cure. But it is only in the earliest periods of the disorder that these ever prove effectual ; for when it has been of long standing, so that the edges of the sore have acquired *much* preternatural hardness, neither the use of emollients, nor of gum-plasters, as recommended by many authors, are ever attended with any remarkable advantages.

THE only remedy then to be had recourse to, is the scalpel or caustic ; and as this last, when properly managed, is equally certain with the other, it should, as the easiest method, be always had recourse to ; and for reasons mentioned in a former section, the lunar caustic should be here likewise preferred. The hardened parts being rubbed gently over with it, once in two or three days, or as frequently as the slough occasioned by its preceding application falls off, the callosities will thereby, in general, be soon got the better of ; and the sore having been previously, as already directed, reduced almost to the state of a simple purulent ulcer, is afterwards to be treated accordingly.

IN the list of symptoms, as formerly enumerated, varicose veins were mentioned as one ; these, it might be imagined, when the cause which produced them was removed, would likewise disappear. This, however, is very seldom the case, for parts that have once lost their tone, do not often soon recover it again. So that here, as in other cases, independent of the removal of the original cause of these swellings in the veins, we must also pay some attention to their support, in order that

they may the more easily recover their former strength.

For this purpose, nothing has ever been found so effectual, as the laced stocking, or spiral bandage, as formerly recommended for different circumstances in the cure of sores. In order to have a proper effect, however, in every case of varix of long standing, it ought to be continued for a very considerable time : And there is not, it may be observed, any instance of the complaint ever being so bad, but that in this way alone, either an entire cure may be obtained, or the inconvenience at least so far palliated, as to render quite unnecessary that operation frequently recommended, of extirpating, as in cases of aneurism, the diseased or swelled parts.

SECTION VII.*Observations on the carious Ulcer.*

§ 1. *Of the Symptoms and Diagnosis of the carious Ulcer.*

BY the term, Carious Ulcer, is here understood that species of the disorder only, which is connected with a *local* affection of a bone. For although the spina ventosa, rickets, and some other disorders of the bones may, in particular circumstances, perhaps, come under the same denomination, yet as it is probable that such affections, as occur in these diseases, are connected with, and depend upon, some general disorder of the system, and which, with more propriety, comes under the province of medicine than of surgery, their consideration here, it is evident, would be deviating very much from our plan. All that is here intended, being to give as clear and concise a description as possible
of

of that species of caries, in which surgery is more particularly interested, and in which, by proper attention, we often have it in our power to be of more real service, than in almost any other chronic disorder that comes under the surgeon's management.

It may likewise be observed, that so far as these diseases of the bones above-mentioned are to be considered as local affections, and which, after the removal of the general diathesis which produced them, is frequently the case, the different directions afterwards given, then apply with equal propriety to them, as to the most simple cases that occur.

THE most clear and simple idea that can be given of a caries, is, that it is a disorder of the bones of exactly the same nature as a sphacelus or gangrene is of the soft parts; a circumstance that will clearly appear, both from the symptoms, causes and method of cure.

THE blood vessels in bones not being near so numerous in proportion, as in the softer parts of the body, the anastomosing of different vessels
cannot

cannot in them occur so frequently ; so that when any considerable artery of a bone happens to be destroyed, the parts supplied by it naturally suffer much more than what, from a similar cause, any of the soft organs would do.

AND, as all the blood vessels of bones are communicated to them through their surrounding membrane the periosteum, upon which they generally run for a considerable way, before penetrating deeper, it is not very uncommon for a caries to occur in a bone which has suffered no other *apparent* injury than that of having a very small portion of its membrane destroyed.

I would not, however, have it understood, that a caries must always necessarily follow a destruction of any part of the periosteum, for the contrary of that very frequently happens, and unless the injury has been so considerable as, at the same time, either to affect the mechanism of the bone itself, or to occasion, as was observed, the destruction of some principal artery, caries never will occur merely from the periosteum being abraded ; but whenever an accident has had
either

either of these effects, the other will always very certainly follow.

FROM the first appearance of a bone, after being laid bare, unless its substance has been evidently affected, we never can at once determine precisely, whether a caries will succeed or not : In mere abrasions of the periosteum from ordinary accidents, I would, from a number of observations, say, there is, at least, an equal chance that it will not ; a short time, however, will always resolve the uncertainty.

FOR, if, at the end of the fourth day at farthest, a bone that has been denuded still retains its natural appearance, we may, in general, with pretty great certainty, conclude that no carious affection is to succeed, and may accordingly go on with safety in the treatment, as in every case of simple wound, which, in no case, can, with propriety, be attempted, whilst any uncertainty remains with respect to the state of the bone : And hence the great consequence of being able soon to determine, whether a bone laid bare is to be attacked with caries or not.

FOR

FOR, if from want of attention, a cure should be attempted in a case where caries is to follow, and should, as it frequently might do, succeed, the whole fabric would be again to destroy, much unnecessary pain thereby given to the patient, and a permanent cure be much longer in obtaining, than if it had been properly set about at first.

IN general, however, as was already remarked, if such an accident is to terminate in caries, it usually shews itself in a very short time. By the end of the third or fourth day at farthest, the bone begins to lose its natural healthy appearance, turns first of a pale white, and then gets a slight tinge of a yellow complexion; and whenever this begins to appear, there can be no longer a doubt of what will be the consequence.

IT sometimes continues, however, in that state for a good many days, and by degrees gets a more deep tallow-like appearance, in which way it commonly remains for a longer or shorter time, according to the violence of the inflicting cause; and afterwards goes through the different stages of brown, light dark, &c. till it has acquired

acquired a darknefs of the deepeft dye, a period at which that portion of the bone is fupposed to be arrived at, perhaps, the higheft degree of mortification.

THE difcharge from fuch ulcers, is never of the confiftence of good pus, is generally confiderably thinner, and, from the firft appearance of caries, acquires a moft difagreeable foetor, which always turns more confiderable, as the different ftages of the diforder advance; and at laft too it gets a blackifh hue, at the fame time that it frequently becomes exceedingly acrid.

As the feveral degrees of blacknefs or mortification go on, fmall foramina or holes feem as it were to form in the difeafed parts, and by degrees increafe confiderably, till even the moft folid bones acquire a kind of fpongy appearance. In this fituation, the mortified portion generally becomes loofe, and when preffed upon, a confiderable quantity of a fattifh-like matter, with an intolerable foetor, can commonly be forced out from the different openings, which fo taints the whole difcharge from the ulcer, and gives it fuch a *very peculiar*

peculiar smell, as to render it scarce possible for a surgeon, who has once known thoroughly what it is, ever to be deceived as to an ulcer being attended with a carious bone or not. In so much that this circumstance alone affords almost as certain a distinction in cases of latent caries, as any that can be given.

IN ulcers attended with a carious bone, the fleshy parts never have a healthy appearance, are soft and more flabby than natural, and instead of a florid red, have rather a dark brown, together with somewhat of a glazed complexion.

THE granulations, however, always advance quickly enough, and would frequently proceed even much too far, if they were not prevented by art, which it is always necessary to do, till the diseased part of the bone is either cast off by the efforts of nature, or cut out by art, so as that the cure may take place with certainty from the bottom of the sore. And when neglected for any considerable time, these soft productions in carious ulcers, frequently increase so remarkably, as to form very large and troublesome excrescencies.

WE have hitherto been supposing, that only a portion of the substance of a bone has been affected ; but the same phenomena likewise occur when the caries has been so considerable, as to affect a bone through its whole circumference. Only, in that case, the caries generally advances more quickly, and, in the one, a cure is sometimes obtained by a single lamina or so being cast off, whereas in the other, the whole thickness of the bone is frequently obliged to be taken out.

SUCH are the different appearances of caries, proceeding from an external accident that has laid the bone fairly open to view ; but the same kind of disease occurs frequently in a more latent manner, and, in such cases, proves always, in every respect, a great deal more troublesome.

ULCERS of long standing above the tibia, or any other bone not thickly covered with flesh, merely by the matter insinuating itself to the periosteum, and there producing any erosion or inflammation of that membrane, and so frequently of the bone itself, very often prove the origin of troublesome cariosities ; and which again, so
long

long as they remain, effectually prevent the proper cure of all such sores, notwithstanding the use of every application that can be had recourse to. For when, in consequence of very drying astringent remedies, a cicatrix happens in such circumstances, to be procured, it proves constantly a short temporary cure only, as the disease, in the course of a short time, uniformly breaks out again.

IN such cases, when the external ulceration is not attended with a great destruction of parts, so that the bone still remains with a tolerable thick covering, a caries is not always easily distinguished; so that practitioners are frequently, for some time, at a loss how to proceed in the cure: With a little attention, however, and especially with the assistance of experience in former similar circumstances, a spoiled bone may, in general, be readily enough detected.

WHEN a probe can be introduced at any opening that may take place, and admission can thereby be got to the bone, if a roughness of its surface is discovered, the case becomes then altogether evident.

SUCH

SUCH information, however, is not always to be obtained, for frequently there is no evident opening in the surface of the fore, and, if there are any, they are often so small that no instrument, proper for the purpose, can get admission. And on other occasions, again, when the opening is even tolerably large, and when a caries does certainly exist, yet the diseased part cannot be got at with the probe, from the sinus leading to it running either obliquely, or perhaps in different winding directions.

ALTHOUGH in such cases, however, the bone itself cannot be immediately reached, yet, by attending properly to the appearance of the fore, and nature of the discharge, we need not often be at any great loss.

If a caries of the bone does take place, any new parts which may have appeared in the fore, are commonly, as was formerly remarked, soft and flabby; and, in place of a regular surface, the new granulations sprout up in different clusters, of the size of small nuts or so; and, instead of a healthy red appearance, have usually a dark brown complexion.

THESE

THESE, together with the discharge being of a thin, dark, greasy appearance, and especially when attended with that peculiar abominable factor which spoiled bones always have, prove almost as convincing circumstances as if the bone itself was laid bare.

§ 2. *Of the Causes and Prognosis of the carious Ulcer.*

THERE have commonly been enumerated by authors, as the causes of caries, whatever accidents could occasion either denudation, loss of substance, or erosion of a bone. But it is a circumstance well known to every practitioner, that the common teguments and periosteum are very frequently destroyed, without any carious affection ensuing; and that even a very considerable loss of substance in a bone, may, and frequently does occur, without being followed by any such appearance.

THE causes, therefore, in general, of caries, may be said to be, whatever can, by erosion or otherwise, destroy the circulation in the whole or in any part of a bone.

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As such may be mentioned wounds in general, which affect either the periosteum or bones; violent contusions, and inflammation of the periosteum, from whatever cause it may proceed, when it ends either in abscess or gangrene: The acrid matter of ulcers penetrating to, and destroying the periosteum; and lastly, the improper application of sharp acrid spirits and powders to bones merely laid bare, a practice recommended by almost all the antient writers on this part of surgery.

It is observed above, that loss of substance in a bone does not always produce caries; thus, very considerable portions of the cranium, it is well known, are frequently taken out when fractured, without any caries of the remaining part of the bone ensuing; and that the same circumstance, likewise, happens, in some instances, in other parts of the body, I have had many opportunities of being convinced of.

THAT such occurrences, however, are not to be met with so frequently in other bones as in those of the cranium, cannot be denied; and the reason of it, very probably, is, there being a
greater

greater proportion of blood-vessels sent to the bones of the skull than to any of the long ones ; whereby, an accident that may be sufficient for separating one part of a bone from another, will not there so readily produce a stoppage of circulation in the neighbouring remaining parts, as in the hard bones of the extremities, in which the blood-vessels are much more sparingly distributed : And to such a stoppage we have already endeavoured to shew that every case of caries is to be attributed.

IN every instance of caries, the prognosis to be formed must depend upon a variety of circumstances, the principal of which are,

THE situation of the diseased parts ; the nature and organization of the affected bone ; the nature and degree of the inflicting cause ; the size of the caries ; age and habit of the patient.

THUS it will be readily allowed, that a caries in any of the bones of the skull, ribs, or vertebræ, from these parts being situated above or upon organs, so immediately necessary for life, must

must be attended with more risk, than a disease, in every other respect of the same nature, in any of the bones of the extremities.

For a similar reason too, a caries seated near to any of the joints, from the danger of these becoming affected, is always attended with more risk, than when the disease is confined to the middle of a bone.

THE nature or texture of a bone too, has no small influence in every case of caries; exfoliations being much more tedious, in the hard and compact, than in the more soft vascular bones. Thus, although, as was already remarked, disorders of this kind are attended with more risk, on the skull than elsewhere, yet a caries when situated there, if it is to be cured at all, never proves near so tedious as when the hard substance of the tibia is affected.

THE nature of the cause which produced the disorder, has likewise a considerable effect in determining the prognosis. Thus a wound with a sharp cutting instrument, that may have destroyed not only some of the periosteum, but even
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part of the bone itself, does not generally produce either such a deep or extensive caries, as commonly succeeds to *violent contusions* of bones, with perhaps no immediate loss of substance.

THE extent of the diseased part too, it was observed, likewise influences the cure considerably. This is no doubt the case, in every species of ulcer, but is more particularly so in all cases of caries; for it is constantly found, that much more time *in proportion* is requisite, for the separation of a large piece of spoiled bone, than what in general proves sufficient for one of a less extent.

AND lastly, as in every species of sore, the patient being young or old, healthy or otherwise, are circumstances which occasion very considerable differences in the cure. And it is from a due attention to the several circumstances enumerated, that every prognosis in cases of carious ulcer ought to be formed.

§ 3. *Of the Cure of the carious Ulcer.*

CARIES being a disease of the same nature in the bones, as mortification is in the soft parts, no

cure, it is evident, can with propriety be attempted, till the removal of all such parts as are diseased is accomplished.

FOR, if either by accident or design, an union of the parts above such a caries should be obtained, the dead portion of the bone not having any connection with the living or sound parts, would by acting as an extraneous irritating body, soon produce an abscess or collection of matter, and so would force open the parts lately closed up.

IN a healthy constitution, the separation of diseased mortified parts, from such as remain sound, is, in general, accomplished by a natural exertion of the system.

THE course which nature falls upon, to effect this, seems, as was formerly particularly remarked, when treating of gangrene, to be through the intervention of a slight degree of inflammation, excited upon the extremities of the remaining sound parts, which forms, as it were, a boundary between these and such as are diseased.

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IN consequence of such an inflammation, a ferous exudation from the mouths of the sound vessels is produced; a suppuration is, accordingly, brought about, with a consequent production of new granulations, which, together, soon effectually detach all the diseased from the living parts.

THIS is evidently the process, in such cases of mortification, as occur in the softer parts of the body, and with a very little attention, the same phenomena are observable in every case of caries. Only in the latter, from there being in the bones, as was formerly remarked, a more sparing distribution of blood-vessels, and, consequently, not such a disposition to inflammation, nature does not in them, therefore, get her operation in general *so quickly* accomplished.

IT is from a due attention to this process, had recourse to by the system for freeing itself from such disorders, that we ought to be directed in making the different applications for a cure; and, indeed, by attending properly to this circumstance alone, more real advantages are always to be obtained in the treatment of caries, than can ever be got from any other plan. And in this way

way too, we have it frequently in our power to accomplish in a few weeks, what nature, if left to herself, would require many more months to effect.

FROM the foregoing considerations, the principal indication, it is evident, in every case of caries, should be by proper applications frequently reiterated, to excite, and continue as long as may be necessary, such a degree of inflammation in the adjoining sound parts of the bone, as may be requisite for the total separation of the mortified parts.

AT this period of the disorder, the diseased part of the bone, we suppose to be laid quite bare, which in the case of caries, as first described, is from the beginning the case, and which must in the other be brought about, by destroying the corrupted and other parts that cover it, so soon as the caries from the different symptoms is known to exist.

So far at least, is necessary, to lay it open, as is requisite for getting freely at the disease of the bone in its full extent. This by a mere incision
along

along the course of the caries, may in general be done ; but when the disease extends over any considerable surface in breadth, it becomes necessary, to make a crucial incision, or even to take away part of the teguments altogether. And till the disease of the bone is entirely removed, it is necessary by a due attention from time to time, to prevent the formation of new parts, at least, so far as might in any degree obstruct the separation of the caries.

WHETHER authors have ever had in view, such an indication as the one above mentioned, for the cure of caries, I know not ; but the means fallen upon in such cases, to accomplish a cure, have, in general, been quite contrary to those, which, for such an effect, ought to be pursued ; and very much opposite to those means now made use of by many practitioners with much greater success.

THE directions laid down by all the old writers on this subject, and which are still continued by some of the moderns, are, in every case of caries, or even only of a denuded bone, to apply immediately to the bone itself, powders and tinctures
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of aloes, euphorbium, myrrh and other warm gums. This, it is probable, they were originally led into, with a view to correct the great degree of foetor and putrefaction, that in cases of carious bones always take place ; and from custom only, the practice has been continued, without any other satisfactory reason, for the only effects such applications ever can have, farther than that of correcting the smell, is to irritate and inflame the soft parts of the sore, without having the least influence on the more material disease of the bone.

FOR, when the caries is of any considerable depth, such substances can never penetrate to, or affect the sound parts of the bone, where alone by the irritation they would occasion, some influence from them might be expected.

AND again, when no caries or affection of that kind has appeared, such applications to bones merely denuded of their periosteum, can never, in any respect, be necessary, and may, on the contrary, be frequently a means of inducing a real caries, the very disorder they were intended to prevent.

ANOTHER

ANOTHER great remedy, recommended by almost every author, in the more advanced stages of caries especially, is the actual cautery. This, however, independent of the many objections made to it by patients, from the pain and cruelty attending it, is evidently, from its nature, a very injudicious application in all such disorders; and although many have no doubt recovered when the cautery has been made use of, there can be little doubt, but that the same complaints would have been sooner removed, had no such remedy been had recourse to; for in whatever way we consider it to be applied, its effects must evidently be pernicious.

IF the cautery be applied in such a manner, as entirely to destroy the diseased parts of the bone, as is commonly recommended, the sound parts underneath, from the degree of heat necessary for that purpose, must undoubtedly always suffer so much, as soon to be rendered equally carious with those intended to be removed.

AND, on the contrary, when used in a more sparing manner, the diseased part of the bone will not be removed, at the same time, that a
very

very great risk will still be run of retarding the natural exertion of the system for the removal of the disease; for even a slight degree of heat will effect the destruction of such granulations, as nature may, for that purpose, have already formed; and the just medium, it may be remarked, necessary for destroying the morbid, without affecting the sound parts, is scarce possible to be determined.

WHEN, for any particular reason, the actual cautery might not be judged proper, it has been recommended, by the same authors, to make use of different artificial caustic preparations; and by others, as the shortest process, to strike off at once all the diseased parts with a chisel and mallet.

BUT the same objections stated to the use of the cautery, hold equally strong with respect to these; so that in every case of caries, all such precarious applications should be entirely laid aside, and that especially as we have it in our power to accomplish the same indication in a much more safe and certain manner.

FOR the purpose of exciting a necessary degree of inflammation, the most effectual and safest method, and which, in slight cases of the disorder, proves always sufficient, is the making a number of small perforations all over the surface of the carious bone, to such a depth as to give the patient a very little pain, and no farther.

THIS operation being, in different parts, renewed every third day or so, the diseased portion of the bone, in the course of a short time, not only loses the cohesion of its own parts, but a gentle inflammation being, by the same means, raised and kept up, till a free suppuration is produced, the whole mortified mass is generally, in a short time thereafter, entirely thrown off.

THESE perforations are very conveniently and effectually made by a pin or perforator, such as is used for fixing the head of the trepan, and which being fixed in the handle of that instrument, not the one in common use, but that which resembles the tool made use of by coopers for perforating casks, it is thereby wrought with a great deal of ease, as well as expedition.

ALTHOUGH the operation, as now described, in general, answers very effectually in slight cases of caries, which are not of great extent, and which do not penetrate deeper than the first or second lamella of the bone ; yet when the disease is very extensive, and especially when it goes deep into the substance of a bone, it shortens the process considerably, if, in place of the perforator, a very small head of a trepan is employed.

THIS instrument being applied at proper distances over the surface of the caries, and carried just so deep as to give the patient a very little pain, as formerly directed, tends considerably to the production of that degree of inflammation, which, in all such cases, we have shewn to be so necessary. And, at the same time, by converting, as it were, a very large caries into so many smaller diseased parts, their separation from the sound bone below, comes to be much more easily effected, than if the whole surface had still remained in one continued piece.

So soon as any of the parts loosen at the edges, their final separation may be always greatly hastened, by daily insinuating below them the end
of

of a common spatula or levator, so as to press their edges a very little upwards.

THE head of a common trepan is very often made use of for taking out a piece entirely, when bones happen to be carious through the whole course of their different lamellæ; but, in that state of the disease we are now speaking of, it is not supposed to have got such a length, and consequently such a practice could not, with propriety, take place.

AFTER the use of either of the forementioned instruments, the ulcer is to be dressed in the common methods; only, so long as any of the carious bone remains, the putrescency and fœtor are commonly so considerable, that it becomes necessary to make some applications, merely with a view to the correction of these; and this purpose is, in general, pretty effectually obtained, by dressing the carious bone with lint soaked in a strong decoction of Jesuits bark and walnut tree leaves, the rest of the sore being, at the same time, dressed, as directed for cases of simple ulcer.

So soon as the carious parts are all entirely removed, the whole being then in the state of a simple purulent sore, it ought to be treated so accordingly ; for, although we are particularly directed by the greatest number of authors, never, in any case of caries, or of denuded bone, to make use of ointments, or any kind of greasy application, yet as there was never any just reason given for such a prohibition, I long ago made trial of applications of that kind in cases of caries, and no inconvenience arising from the practice, I have, since that time, been always in the way of applying them, just as freely to bones as to other parts.

ON looking into a treatise on carious bones, by the late celebrated Dr MONRO, I am happy to find the point in question supported by the practice of such an eminent practitioner ; who, after speaking of the application of unctuous medicines to bones, not only admits of it as *safe*, but recommends the practice as exceedingly *useful* ; and says, “ I can now, after a great many trials, assure you, that no medicines so effectually *prevents the corruption* of bones laid bare, and *assist* to

to cover them so soon with flesh, as ointments *.

WE have hitherto been supposing, as was already observed, that the disease does not penetrate far into the substance or body of a bone ; but when that happens to be the case, so that a considerable portion, perhaps, of its whole circumference is affected, or, as frequently happens, the disease extends even round the whole bone, the shortest process then, is to take out, at once, all the diseased parts, either with the head of a trepan, frequently applied, or by means of a small spring-saw.

IN many situations this may often be easily done, particularly in the skull, in the bones of the hands and feet, as also in those of the legs and arms, when the caries does not run into the necks and heads of the bones, so as to affect the joints : In which event, if an anchylosis does not ensue, or if nature does not, some how or other,

* In the same ingenious Dissertation may be seen a particular account of the several species of caries, with a list of authors in different ages, from Hippocrates downwards, that have wrote upon it, with the several methods of cure proposed by each. Vid. vol. V. of Edinburgh Medical Essays.

other, effect a cure, amputation of the limb must always, at last, be had recourse to ; the extremities of large bones becoming carious, being one of the many complaints for which art has not, as yet, discovered a remedy.

BUT, whenever a caries is confined to the middle of any of the bones of the extremities, excepting, perhaps, in the thigh, where the thickness of parts is so very considerable, amputation of the member should never be advised for it ; for, with a little patience and attention, if the patient's health is not much weakened, nature may, in general, be so far assisted by removing the diseased parts, that a complete cure may, at last, be most frequently obtained. And in no case whatever ought we to despair, when the carious part can, with safety, be removed ; for, however extensive the disease may be, if we can properly accomplish its removal, nature will seldom fail on her part, in filling up the vacancy : There being many instances to be met with, in different chirurgical publications, of even whole bones being regenerated.

DURING

DURING the treatment of a caries, it must be understood that the same attention is requisite to the patient's habit of body, diet, and regimen in general, as in other species of ulcers.

THUS, if he is of a full inflammatory constitution, all heating and very nourishing diet should be abstained from ; and if, on the contrary, the system is low and emaciated, as, from the long continuance of such disorders, is most frequently the case, a nourishing generous regimen should always be allowed. In such cases too, as tonic remedies are much wanted, Jesuits bark is often found very serviceable, and should always be had recourse to in considerable quantities.

AFTER the extraction of the carious bone, the sore which remains is to be treated in the same manner as already directed for the management of that species of ulcer, to which, at the time, it may appear to belong.

SECTION VIII.*Observations on the cancerous Ulcer.*

§ I. *Of the Symptoms and Diagnosis of the cancerous Ulcer.*

CANCERS have been generally distinguished into occult and open. By the former are meant such hard schirrous swellings as are attended with frequent shooting pains, and which, at last, generally terminate in the latter.

By *open cancerous ulcer*, is understood, that species of sore, which commonly succeeds to hard swellings of the glands; although in some instances, it occurs, without any previous hardness. The edges of the ulcer are hard, ragged, and unequal, very painful, and reversed in different ways, being sometimes turned upwards and backwards,

backwards, and on other occasions inwards. The whole surface of the fore is commonly very unequal, in some parts there being considerable risings, and in others deep excavations. The discharge, for the most part, is a thin dark coloured foetid ichor, and is often possessed of such a degree of acrimony as to excoriate, and even destroy, the neighbouring parts. In the more advanced stages of the disease too, by the erosion of blood-vessels which occurs, considerable quantities of pure blood are sometimes discharged.

PATIENTS labouring under real cancerous affections, universally complain of what they term a *burning* heat over the whole ulcerated surface, which, in general, it may be remarked, is the most tormenting symptom that attends the disorder; and those shooting lancinating pains, which were troublesome in the more occult state of the complaint, become now a great deal more so.

THESE are the most frequent symptoms which attend an ulcerated cancer, but the appearances of such sores are so various, that it is almost impossible in any description, to comprehend every one. When two, three, or more, however, of

those enumerated, concur together in the same ulcer, we may always be pretty certain of its being of the cancerous kind.

THE situation too of such sores, affords likewise some assistance in the diagnosis ; for though cancers do no doubt occur in every part of the body, yet by far the greatest proportion happen, either *evidently* in the substance of one or more glands ; or in such situations, where glands are known to be most numerous. Thus there are probably six times the number of cancerous affections occur in the lips, and in the breasts of women, than in all the rest of the body besides.

§ 2. *Of the causes of cancerous Disorders.*

A VARIETY of causes of cancer, have been mentioned by different authors, and an equal number of remedies have been recommended : But the deficiency we still labour under, in the treatment of the disease, shews evidently that every thing of that kind as yet proposed, has been more founded in theory alone than in practice and observation ; for there is no disease to which the human frame is liable, that has more baffled the

the whole art of phyfic, nor is there any that can be fo juftly termed the *opprobrium medicinæ*, as that now under confideration.

ALTHOUGH a thorough acquaintance with the theory of the diforder, might probably throw fome light upon the method of cure ; yet as any thing of that nature that has hitherto been offered, or perhaps, as yet difcovered, feems merely speculative and not fupported by experience, the introduction of any fuch reasoning here, could not prove either entertaining or inftmctive. Before going farther, however, it would feem to be of confequence, to examine with accuracy the different opinions of practitioners, with refpect to cancer being a *general* diforder of the fyftem, or merely a *local affection*.

THIS is a point of the greateft confequence in practice ; for if it is once eftablifhed, that cancers are originally local affections only, no objection could then be made to their cure by extirpation, as at prefent there is by many, who contend, that cancers, in every inftance, proceed originally from fome diforder in the general fyftem, and, confequently, that their removal can never have
any

any other effect than to cause the disease again break out in the same, or in some other part of the body. And this they are much confirmed in, by observing the little success which commonly attends the extirpation of cancers, the disorder, as is alledged, generally returning, in by far the greatest proportion of all that are cut.

IF this argument was founded in fact, it would no doubt merit some attention; though even in that case it ought not to be considered as conclusive against the operation, as will hereafter more evidently appear. It will soon, however, be demonstrated, and to many, indeed, is already known, that a much greater proportion than that mentioned, recover and do well after the extirpation of cancers; and it is probably the fault of surgeons, or of patients only, who generally delay the operation too long, that even a great many more do not recover, than what, as yet, in such cases, ever have done.

It is of the more consequence to have the point in question determined, as the only accounts of success from extirpation, which, till lately, has appeared in this country, gives so bad a prospect
of

of recovery, that I make no doubt of its having been the means of deterring many patients from undergoing a timeous operation ; and consequently, of preventing their getting free of cancerous complaints, which no other remedy could possibly remove.

It is very probable too, that the same publication, as coming from great authority, has had no inconsiderable influence even with practitioners, in making them much more backward in undertaking the extirpation of cancers, than they otherwise, probably, would have been.

THE publication alluded to, is that of the justly esteemed Dr MONRO, in Vol. V. of Edinburgh Medical Essays, where the Doctor says, “ Of
“ near sixty cancers which I have been present
“ at the extirpation of, only four patients re-
“ mained free of the disease at the end of two
“ years: Three of these lucky people had occult
“ cancers in the breast, and the fourth had an
“ ulcerated cancer on the lip.”

THE Doctor likewise observes, that of the few he had an opportunity of seeing the disease re-
lapse

lapse in, it was always more violent, and made a quicker progress, than it did in others on whom no operation had been performed. He therefore proposes, by way of question, “ Whether ought cancerous tumours to be extirpated, or ought the palliative method only to be followed when they cannot be resolved?” and upon the whole, concludes against their extirpation, except in such as are of the occult kind, in young healthy people, and that have been occasioned by bruises or some other external causes. In all other cases the Doctor observes, it should be the patient’s *earnest entreaty* only, after the danger of a relapse has been explained, that should make a surgeon undertake the operation,

THAT Dr Monro, from observing the disease to return so very frequently, should be of this opinion, is not in the least surprising; and if no better success was, in general, to attend the extirpation of cancers, it would no doubt be an objection to the practice; and that especially, if all the cases which relapse should be found to be attended with more inveterate and painful symptoms, than they either were, previous to the operation, or than they probably ever would have been had

had the extirpation of the tumours not been had recourse to.

BUT the experience of many practitioners since Dr Monro's publication, has proved a great deal more successful; and one late publication upon the subject, to be afterwards taken notice of, puts it beyond a doubt, that a much greater proportion have recovered from cancers by means of extirpation, than had occurred to the Doctor in the course of his experience. It will not, therefore, appear improper, to endeavour at discovering the reason of the Professor's great want of success in such cases, in comparison with what others have met with: And this it is presumed will not be difficult to do.

IT may, I think, be laid down as a certainty, that the sooner cancerous cases are operated upon after their appearance, the greater is the chance of the extirpation proving effectual. And *vice versa*; now it is exceedingly probable, the high rank which Dr Monro bore in his profession, both as an anatomist and surgeon, would be the means of his being applied to for more bad and old cases of cancer, as well as of other complaints,

complaints, than perhaps any other practitioner of his time. Patients in the country, with slight easy cases of cancer, have them generally taken off by their own surgeon; but whenever they become of a more inveterate nature, by long standing or otherwise, they always fly to a town; to the capital when they can conveniently do so, and there the most famed in his profession is naturally had recourse to. And as Dr Monro was exactly in this situation, a great number of such doubtful cases would most probably occur to him; so that in such circumstances it is not surprising that very little success attended the different operations which took place; nor need we wonder at the opinion the Doctor afterwards adopted upon the subject.

SUCH unfavourable cases as those represented, it is probable, for the reasons alledged, would most frequently occur to the Doctor in private practice; and in his attendance on the Infirmary, he would, in general, meet with very similar ones. For, in every hospital, it is commonly the worst cases chiefly that are to be met with; as before application is made there, private surgeons are always consulted, who, when an operation

ration is to take place, if the case does not appear desperate, and if any reputation is to be got from it, seldom allow such to proceed farther. And, on the contrary, when the disease is evidently of an inveterate nature, and an operation to be attended, therefore, with much risk, a public hospital is always recommended: So that no fair judgment, from the result of such experience, in cancerous cases especially, can ever be formed, unless, at the same time, these different circumstances are properly attended to, and allowed for.

THIS, in my opinion, is the only way in which Dr Monro's great want of success in the extirpation of cancers can be accounted for, and it does it, I think, pretty satisfactorily: So that all the conclusion which can be drawn from that part of the above mentioned paper, is, that there is *very little* chance of success from extirpation in the more advanced states of cancer; a circumstance which ought, therefore, to make us have recourse to that operation in the earliest stages of the disease, when, in general, there would not, probably, be much chance of its frequently failing.

SUCH expectations will probably, by many, be considered as much too sanguine; and they no doubt would be so, if the success which *in general* attends the operation, was all that could be attained; but its proving, for the most part, so unsuccessful should by no means be imputed either to the nature of the disease, or to the fault of the remedy, but entirely to its being, in by much the greatest number of cases, delayed too long, till the system has thereby time to become so much infected, that we should rather wonder at the operation succeeding so frequently, as it is, even in the general run of practice, found to do.

IN confirmation of the opinion we have endeavoured to support, it is not thought improper here to introduce a very short abstract from a late publication on cancers formerly alluded to, by the late Mr James Hill, an eminent surgeon in Dumfries, who, in the course of a very extensive practice, had, amongst other articles, more experience in cancerous cases, than often falls to the share of one man: So that to such as have not yet seen Mr Hill's book, it will not probably appear superfluous to find here a short abstract from his observations on these complaints.

IN the year 1772, the date of this publication, Mr Hill had extirpated from different parts of the body, eighty-eight genuine cancers, which were all ulcerated except four, and all the patients, except two, recovered of the operation.

OF the first forty-five cases, only one proved unsuccessful; in three more, the cancer broke out again in different parts; and a fifth, was threatned with some tumors at a distance from the original disease. These tumors, however, did not appear till three years after the operation, and the woman was carried off by a fever before they had made any progress. All the rest of the forty-five continued sound as long as they lived, or are so, says Mr Hill, at this day. One of them survived the operation above thirty years, and fifteen were then alive, although the last of them was cured in March 1761.

OF the next thirty-three, one lived only four months; and in five more the cancer broke out afresh, after having been once healed. The reason why out of forty-five cases, only four or five proved unsuccessful, and six out of thirty-three, was owing to the following circumstance.

“ THE extraordinary success I met with,” continues the author, “ made cancerous patients flock to me from all corners of the country, several of whom, after *delaying* till there was little probability of a cure by extirpation or any other means, forced me to perform the operation *contrary both to my judgment and inclination.*”

UPON a survey in April 1764, made with a view to publication, the numbers stood thus: Total cured of different ages from eighty downwards, sixty-three; of whom there were then living in all thirty-nine. In twenty-eight of that number the operation had been performed more than two years before, and in eleven it had been done in the course of the last two years.

So that, upon the whole, after a course of thirty years practice, thirty-nine of sixty-three patients were alive and found; which gives Mr Hill occasion to observe, that the different patients lived as long after the extirpation of the cancers, as according to the bills of mortality they would have done, had they never had any cancers, or undergone any operation.

THE remaining twenty-five, which completes the eighty-eight, were cured since the year 1764. Twenty-two of these had been cured, at least, two years, and some of them, it may be remarked, were seventy years, and one ninety years old.

IN the year 1770, the sum of the whole stood thus: Of eighty-eight cancers, extirpated at least two years before; not cured, two; broke out afresh, nine; threatned with a relapse, one; in all twelve, which is less than a seventh part of the whole number. At that time, there were about forty patients alive and sound, whose cancers had been extirpated above two years before.

I have been the more particular in giving an account of Mr Hill's success in cancerous cases, as it is the latest, and perhaps the most considerable, even in point of number, that the public ever was favoured with; and I was the more readily induced to it, from having been present at a considerable number of the operations, and from knowing that no fallacy or mistake could occur in the relation, Mr Hill having been so exact, as to keep a register of every case of any consequence that came under his management.

FROM

FROM these and many other authenticated facts, which, if necessary, might be adduced of the success attending the extirpation of cancers, there is, it is presumed, very great reason for considering that disease, in general, as a local complaint, not *originally* connected with any disorder of the system, and that a general cancerous taint seldom or perhaps never occurs, but in consequence of the cancerous virus being absorbed into the constitution, from some local affection. This, in every case of real cancer, or rather in such schirrosities, as from their nature are known generally to terminate in cancer, should certainly determine us to have as early recourse to extirpation as possible; and if this was done soon after the appearance of such affections, or before the formation of matter took place, their return, as was already observed, would probably be a very rare occurrence.

THE particular nature of the cancerous virus, I do not pretend to know, nor will it perhaps be ever discovered; but it is not unreasonable to suppose, that external accidents merely, may produce such an effect upon particular parts, as to induce

induce the formation of a matter, even as acrid as that of cancers appears to be.

THUS we have daily instances of bad vitiated sores, producing very acrid, and even corrosive matters, which, from what has been remarked in some of the preceding sections, could not probably have previously subsisted in the blood: And, if that is the case, why may not *some peculiar affection* of a part produce the formation of a *cancerous* matter? The one may, *a priori*, just as probably occur as the other, and does, it is apprehended, as certainly happen.

THE ordinary situation of cancers too, may, in some measure, account for the discharge afforded by them, being even of a more acrid and virulent nature, than that of any other set of ulcers; for, as, in general, they are seated in the glands, which are known, even in much more simple affections, never to produce good matter, it is not at all improbable, but, by some peculiar irritation applied to a gland, such a disposition in it may be induced, as to cause the formation of the worst and most inveterate of all matters, *viz.* the cancerous: Which being allowed to remain,

main, and absorption taking place, the whole system comes, in course of time, to be, as it were, saturated with it, and so a general affection, or what may be termed the *cancerous diathesis* is, at length, produced, from what, at first, was only a local ulcer.

WE have thus endeavoured to shew, that, by an external accident merely, cancer may be produced, without having recourse to the supposition of any internal affection. But say those, who assert that the latter, in such cases, always takes place, “ Although external violence does sometimes seemingly end in cancer, yet that disorder would never in such a way be produced, unless a predisposition, in the habit, to such complaints, subsisted at the same time ; and besides, altho^o cancers do, from that circumstance, on some occasions, succeed to external accidents, yet by far the greatest number of cancerous disorders occur without the intervention of any seeming violence whatever.”

THAT this is the case will not, by any practitioner, be denied, but it may, however, be explained upon very different principles, from what
it

it commonly has been, and in a manner too, that will rather tend to confirm the opinion of cancers proceeding, in general, from a local affection.

IN by much the greatest number of cancerous cases, as was already observed, the glands appear *evidently* to be the seat of the disease, which renders it probable, that, *in all*, they are the parts originally affected; and that the neighbouring soft parts come only to suffer in consequence of their vicinity to these; or perhaps, in some few cases, cancerous ulcers may break out in parts not glandular, from the whole system being much infected, in consequence of the long continuance of a cancerous gland in any one part.

THIS being the case, we may very easily conceive how single glands may frequently become affected, without any *evident* external cause intervening; for the circulation being, in the glands, carried on by a set of vessels much more minute than those with which other parts of the body are supplied, obstructions will much more readily and easily occur in them than in other parts; and a gland being once obstructed, the stimulus and irritation thereby occasioned, may, it is probable,

I. 1

bable, have much the same effects, and be attended with the same consequences, as a blow or a bruise generally produce.

IN this way too may be accounted for, without having recourse to any peculiar cancerous disposition in the system, all those cases of cancer that occur from imposthumes in the breasts of nurses, and of lying-in women, as likewise those which so frequently happen to women about that period at which the menses leave them; and also such as sometimes succeed to fevers and other disorders, and of which they seem, as it were, to be the terminations.

IN all these cases, there is always a determination of blood, or of some other fluid to the affected part, which, when it happens to be to the cellular substance, an abscess is produced; when to the pleura, membranes of the eye, or any such parts as from their firmness of texture do not favour the extravasation of fluids, violent inflammations are the consequence; and, when the substance of a gland happens to be the part a determination is made to, it being neither, as is found from experience, so proper as the cellular membrane,

brane, for the formation of pus, nor from its softness so susceptible of inflammation as a membrane, an indolent hard swelling called scirrhus comes merely by the obstruction and distension of its different vessels very naturally to be produced. And, a tumour of this kind having once taken place, it generally remains for some time in its original indolent state, till, by increase of bulk, or perhaps from external violence, an irritation sufficient to excite some considerable degree of inflammation is applied; which, from the nature of the affected part, not being able to produce suppuration, generally, at last, terminates in what we call *cancer*, as in other soft parts of the body it would in gangrene, if not previously resolved or brought to suppuration.

THIS objection, therefore, of cancers appearing more frequently without, than with the intervention of any external accident, does not, when properly examined into, appear to be of any consequence; and from the whole of what has been said, this conclusion I think may be drawn, that cancers, in very few instances, perhaps in none, ever arise from a general affection of the system; but, on the contrary, are at
their

their first appearance almost always local affections only.

SUCH a conclusion, were we better acquainted with the nature of the disorder, than as yet we are, would, it is probable, appear to be founded in fact. The reasons for adopting it, appear to be stronger than any that have been adduced in support of the contrary opinion ; and, at any rate, its being admitted, can never prove so detrimental to mankind, as if the contrary opinion was universally to prevail: Which having the effect of preventing patients with cancerous disorders from having recourse to extirpation, would, so long as it prevailed, be always the means of their neglecting the only remedy, which, so far as we know, ought ever to be trusted.

WITH respect to that circumstance, taken notice of in the paper lately quoted from Dr Monro, of cancerous disorders being always more violent and making a quicker progress upon returning after extirpation, than in patients on whom no operation had been performed ; this may in some instances be the case, but I know, from experience, that it is not always so ; and although

though it should in reality be found so on many occasions, yet still it is no valid objection to the practice of extirpation; and would appear only to be an additional reason for having recourse to the operation at a more early period of the disease, than is generally done; so that there might be little or no risk of a return apprehended in any form.

§ 3. *Of the treatment of cancerous Disorders.*

FROM all that has been hitherto said, it is evident, that very little is to be expected in the treatment of cancerous disorders from internal medicines: Nor are external applications, farther, than with a view to palliate particular symptoms, ever to be depended on.

A great many remedies, both in the line of quackery and otherwise, have at different times been recommended to the public as cures for cancer; but none, it is probable, was ever more depended on than *cicuta*, a remedy which, in this country, however, has by no means answered expectations.

ITS failure, indeed, has now proved so universal that there seems little occasion here to say any thing with respect to it ; I shall only just observe, therefore, that although, in a great number of instances, I have known it exhibited with all the attention to its preparation that could possibly be given, yet, in *real cancers*, I never knew it, or indeed any other remedy, produce a cure.

IN simple cases of indurated glands, I have frequently, indeed, known the use of cicuta attended with very good effects ; and in the advanced stages of cancer, when excision was determined against, I have, on different occasions, seen it useful, both by relieving pain, and by procuring from the fores a better and less acrid discharge than could otherwise be obtained. But whenever there is no objection to the extirpation of a cancer, so soon almost as the disease is discovered, that operation should always, as the most certain remedy, be immediately had recourse to.

WITH respect to the *mode* of operating in extirpating cancerous affections, very full information may be obtained from the several systematic writers on surgery ; it is not here thought improper,

proper, however, to introduce a few general observations on the subject ; and,

1. THE removal of cancerous disorders, even in the slightest and most trivial cases, should be always effected with the scalpel, in preference to caustic ; which, although a practice formerly much recommended by some authors, and still in some parts adhered to, ought, for very obvious reasons, to be entirely laid aside.

THE irritation generally occasioned by every application of the caustic kind, together with the pain and inflammation which commonly ensue, are, in cancerous cases especially, very strong objections against their ever being used. Plunket's remedy, which is evidently of a caustic nature, and which probably consists chiefly of arsenic, has, no doubt, like every other medical secret, been greatly extolled ; but it is not probable, if the different cases it has been used in were all fairly examined into, that it would be found ever to have produced any advantages which could not more certainly and speedily have been obtained from the scalpel.

2. IN

2. IN whatever part of the body the disorder is situated, every part that has the least appearance of disease should be always taken off; and if, even in the course of after-dressings, any cancerous portions may appear to have been left, these should also be directly extirpated, otherwise the disorder will just as certainly return as if no part of it had been removed; and, from want of proper attention to this circumstance, the want of success in this operation, I have no doubt, may, on many occasions, have arisen. Even every indurated gland which appears in the neighbourhood of a cancerous fore, should just as certainly be taken away as the ulcer itself; for, if allowed to remain, it gives little or no chance for the operation succeeding.

WHEN the complaint is seated in the breast, although perhaps part of the mamma only may be affected, the whole of it should be always taken off; for leaving part of it can never be attended with any advantage, and such parts afterwards prove, as I have often seen, very inconvenient to the patient.

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ALTHOUGH it is always proper, however, to extirpate every part that is really diseased, none of the external teguments should be ever unnecessarily destroyed, or more of them taken away than is altogether requisite; for the smaller the cicatrix that remains after the part is cured, the less will be the consequent irritation; and perhaps, from that circumstance, the chance of the disease returning, may be, in some measure, lessened.

AT least, in the Infirmary here, there has of late years much greater success attended the extirpation of cancerous lips, than was ever formerly experienced; and the only *evident reason* for it, is, that during that period the greatest number of such cases have been cut and cured in the *bare-lip* way. Whereby, not only a very narrow cicatrix is left, but the deformity attending it is very inconsiderable; and another very comfortable circumstance to the patient, is, that he can always retain his spittle, or any other liquid, just as well as before the operation, which never can be the case, when any considerable portion of the under lip has been extirpated in the ordinary manner.

It is proper here to observe too, that very extensive cancers in these parts admit of being treated in this manner ; for the lip being composed of parts which yield very considerably, it cannot, but from experience, be imagined, how far they will be brought to stretch. I have seen some instances of more than one half of the whole under lip being taken off, and the remaining parts stretch so far as to be cured in the hare-lip form, and with very little deformity being produced. And, in the same manner, in cancers of the mamma, when the external teguments are not wholly diseased, so much of them may, in general, be preserved, as by the assistance of a proper uniting bandage, may be got to cover a great part of the wound occasioned by the operation ; a circumstance which always renders the cure both more quick and certain than it otherwise would be.

3. AFTER all the cancerous parts have been removed, if the hare-lip method has not been followed, the remaining wound should be dressed in the usual manner with dry lint ; and when, by a free suppuration coming on the dressings fall off, the sore being then in a state exactly
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similar to a simple ulcer from any other cause, is to be treated accordingly, and a cure to be promoted as quickly as possible.

4. BUT some little time before the sore heals up, an issue should be introduced, so as that it may come to discharge freely, before the cicatrix is quite formed. This, when the complaint has been of long standing, is particularly requisite; as also, when it seems to have been occasioned by any particular determination, in consequence of a redundancy of fluids in the system, either from suppressed menses, or from any other cause. And in this way I have no doubt but an issue may be, and frequently has been, a means of preventing the return of cancers after extirpation.

IT has sometimes been advised, as the best method of introducing such a drain, to keep the part open from whence a cancerous tumour has been extirpated. I should strongly suspect, however, that the irritation produced by an issue, directly upon the old seat of a cancer, might sometimes do mischief; and as all the advantages attending the practice are probably to be obtained
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from an issue on whatever part it is situated, I would, therefore, always advise the fore itself to be immediately healed up, and an issue to be introduced in the manner directed in some other convenient situation. After cancers of the breast, it has been a frequent practice in the Royal Infirmary here, to put a seton into the side, near to the original seat of the disorder ; and as it has been thought to produce considerable advantages, and the side being, for such a drain, perhaps as convenient a situation as any, it may, therefore, be always preferred.

THESE are the different circumstances, in general, to be attended to in the extirpation of cancers ; and, as from what has already been said, the removal of the diseased parts seems to be the *only effectual resource* in every case of cancer, there are very few circumstances only, which should ever prevent its being put in practice. And these, in general, are,

I. WHEN, by a long continuance of the disorder, cancerous ulcers, and scirrhus glands have appeared in several different parts of the body, the removal of one, or even all of these,
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as it would not, probably, prove effectual; so, in such circumstances, the operation, it is presumed, should never be had recourse to.

2. WHEN the cancer adheres so firmly to the parts beneath, that the whole of it cannot be removed, at the same time that it might be dangerous to extirpate along with it any such parts as it is connected with; extirpation, in that situation, can never, with propriety, be had recourse to. Thus, cancers adhering to the *Trachea Arteria*, or to the coats of a large artery, can never, without the greatest risk, be extirpated.

ONE instance of the rashness of a surgeon, in attempting an operation in such circumstances, and attended with immediate fatal effects, came within my own knowledge. A large scirrhus tumour seated upon, and lying immediately contiguous to the fœmoral artery, and so high in the thigh, that a tourniquet could not be applied, was attempted to be cut out; but the artery being opened in the course of the operation, the patient died among the surgeon's hands.

CANCERS, however, being merely attached to the circumjacent muscles or tendons, should never altogether debar their extirpation, as considerable portions of these, it is well known, may, without much inconvenience, be taken along with them. Large portions of the pectoral muscles, I have, on many occasions, known taken away with cancers of the mamma, and the patients afterwards recover and do well.

THERE is a paper upon cancers by the celebrated Monsieur le Cat of Rouen, inserted in the first volume of *Memoirs of the Academy of Surgery at Paris*; in which, the author is clearly of opinion, that extirpation is the only remedy to be depended on; and advises it to be had recourse to in the most desperate cases. On the point we are now speaking of, he goes a much greater length than I can actually, from experience, recommend; although, independent of the authority of such a respectable author, and of the cases he instances of the success of such practice, I could not have the least doubt of its being preferable to go even the length he recommends, than to allow a patient with a cancer to sit down with a certain prospect of dying in misery,

fery, before having made trial of the only remedy in the power of art to furnish. For, however fixed a cancerous tumour may appear, if the parts to which it adheres, can, without much danger, be removed; and, if the case is otherwise favourable, the operation ought, undoubtedly, to be always advised *.

3. AN operation can never be adviseable, when the diseased organ lies either altogether, or in part, out of the way of operation; as is the case in cancers of the uterus, of the liver, rectum, &c.

WHEN, from the existence of one or all of these causes, a cancer cannot, with propriety, be extirpated, the next consideration is, to palliate the different symptoms, so that the disease may be rendered as tolerable to the patient as possible.

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* Upon this subject M. le Cat expresses himself thus; “ L’adherence d’un cancer *aux muscles pectoraux, aux cotes meme*, ne fera pas un excuse valable, si ces muscles, si ces attaches de la tumeur aux cotes peuvent etre emportes, de facon qu’il ne reste, que de sain au-dela.” Loco citato.

As for this purpose, the great object to be had in view, is the abatement or prevention of pain, nothing should be either exhibited internally, or applied externally, that can have the least effect in raising irritation or inflammation. So that, for diet the lightest vegetables and milk should be preferred to every thing else ; no animal food should be allowed, nor spirits, wine, or any fermented liquors ; all violent exercise, and whatever, in short, can heat, or, as is termed, inflame the blood, should be carefully avoided.

THE fœtor attending cancerous ulcers being commonly very disagreeable, and the matter afforded usually very thin and acrid, it becomes always a circumstance of consequence to get these appearances changed, and a discharge of a better nature induced. In this view, hemlock frequently proves serviceable, both as an internal medicine, and as an external application. For internal use, there are two different forms of the remedy commonly kept, the powder and the extract ; but as the former, when properly prepared, seems to possess all the virtues of the latter, and as it is not liable to so many casualties in the preparation, it should, for that reason, be

be in general preferred. The size of the dose, and number of repetitions, can never be determined but by trial ; some patients being able to bear three times the quantity that can be admitted by others ; so that this circumstance must always be regulated by the strength of the patient, and by the state of the stomach at the time.

When recent hemlock can be procured, a quantity of the juice being mixed with the common emollient poultice, makes a very convenient and effectual application for cancerous sores ; and, in the winter season, when the juice cannot be obtained, the dry powder made into a poultice in the same manner, answers the purpose tolerably well.

The external use of cicuta proves generally more expeditious than its internal exhibition, in procuring a discharge of good matter ; and, in this respect, it commonly proves more effectual too than even the carrot poultice, so much recommended for that purpose in different kinds of sores.

A good discharge being once obtained, the common unguentum cereum is the mildest and most simple application that can be used; with it the parts should be dressed more or less frequently, as the discharge is more or less copious: But at each time of changing, the greatest care should be had to its being done quickly, so as to prevent as much as possible the action of the air, which, in every ulcer, but more especially in the cancerous, always produces disagreeable effects, both in occasioning irritation, and in vitiating the nature of the discharge.

THE violent shooting pains, which prove always so tormenting in cancerous cases, are frequently moderated by a continued use of cicuta; but when it fails in that effect, it becomes necessary to have recourse to opiates in large doses, and these to be repeated at such intervals, as the violence and returns of the pain may indicate. These pains too are sometimes relieved by the use of warm emollient fomentations.

By a proper attention to the different circumstances taken notice of, particularly to the preservation of a well-conditioned discharge, and by

a well-timed use of opiates, very bad cases of cancer may be sometimes so far palliated, as to render them, in some measure, tolerable; though never to such a degree as to prevent the sufferers from regretting daily their not having, in due time, had recourse to the only effectual remedy, *Extirpation*.

SECTION IX.

Observations on the cutaneous Ulcer.§ I. *General Remarks on cutaneous Affections.*

THERE are no set of complaints whatever, less understood by practitioners, than the different disorders to which the skin is liable. This, indeed, is, in some measure the case, both with respect to such as are attended with fever, and those that are not; it is, however, more especially so with the latter, which only are to be here taken notice of; those of the *exanthematous*

tous kind, as they are termed, belonging more properly to the province of medicine.

THE appearances of such complaints are so various, and the descriptions given of them, by different authors, so confused and intricate, that it is scarce possible, from all the several writings on the subject, to collect any thing satisfactory. By different writers, different names have been given to the same set of symptoms; many complaints of this kind are enumerated by old writers, which are now never to be met with; and diseases of a similar nature, though still, in some respects, different, have been regularly described by modern authors, which do not appear, in antient times, to have been at all known. It is much to be wished, therefore, that, by some able practitioner, a thorough investigation of the subject was attempted, as there does not appear any part of the practice of medicine, that we are more deficient in than this; and that not only with respect to the history and theory of these disorders, but even in regard to the method of treatment.

To give a particular detail of all the varieties of such complaints, would of itself require a pretty extensive volume, and would also be entirely foreign to the intention of the present Dissertation; all that is here proposed, being to give a few general observations upon such eruptions of this kind, as, when neglected or improperly treated, are apt to give rise to troublesome ulcers.

A great many complaints of the eruptive kind have, by different authors, been described under the term Herpes, from their being very apt to spread or to creep, as it were, from one part to another; and by this appellation have been distinguished, by late writers, several disorders, which though not entirely the same, yet bear a considerable resemblance to the *lepra* of the Greeks, and to the several species of *impetigo* enumerated by Celsus. As none of these, however, are now in their true form ever to be met with, at least in these climates, it is not here necessary to enter into a particular enumeration of them, and the more especially, as very minute descriptions of them can be had from many of the old writers,

writers, and nothing new, it is probable, can now be offered on the subject.

§ 2. *Of the different species of Herpes.*

THERE have commonly been comprehended, it was remarked, under the term Herpes, a variety of eruptive disorders, but many of the distinctions in these, are taken from very trivial circumstances, and such as do not, in any respect, influence the treatment; and on examination, it will be found, that all the varieties of consequence, may be comprehended in the four following species, viz. *The Herpes Farinosus, Pustulosus, Miliaris, and Exedens.*

The first of these, viz. the *herpes farinosus*, or what may be termed the *dry tetter*, is the most simple both in its nature and treatment, of all the several species. It appears indiscriminately in different parts of the body, but most commonly on the face, neck, arms and wrists, in pretty broad spots of exceeding small red pimples. These are generally very itchy, though not otherwise troublesome, and after continuing a certain time, they at last fall off in the form of a white powder, similar to *fine bran*; leaving the skin below perfectly

fectly sound, and again returning in the form of a red efflorescence, fall off and renew as before.

THE second species of the disorder, *viz. the herpes pustulosus*, appears in the form of pustules, which originally are separate and distinct, but which afterwards run together in clusters. At first they seem to contain nothing but a thin watery serum, which afterwards turns yellow, and exuding over the whole surface of the part affected, at last dries into a thick crust or scab : When this falls off, the skin below frequently appears entire, with only a slight degree of redness on its surface ; but on some occasions, when the matter has probably been more acrid, upon the scab falling of, the skin is found gently excoriated. Eruptions of this kind, appear most frequently on the face, behind the ears, and on other parts of the head ; and occur most commonly in children.

THE third species of herpes, *viz. the miliaris*, breaks out indiscriminately over the whole body, but more frequently about the loins, breast, perineum, scrotum and inguina, than in other parts. It generally appears in clusters, though sometimes
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in distinct rings or circles, of very minute small pimples, which, from their resemblance to the millet seed, has given rise to the denomination of the species: The pimples are, at first, though small, perfectly separate, and contain nothing but a clear lymph, which, in the course of the disease, is excreted upon the surface, and there forms into small distinct scales; these at last fall off, and leave a considerable degree of inflammation below, that still continues to exude fresh matter, which likewise forms into cakes, and so falls off as before.

THE itching in this species of the complaint, is always very troublesome, and the matter discharged from the pimples, is so tough and viscid, that every thing applied to the part, adheres in such a manner, as to occasion a great deal of trouble and uneasiness to the patient, on its being removed.

THE different species of herpes, are commonly in England, distinguished by the names of tetter, shingles and ringworm; but the last is most frequently applied to this species of the disorder.

THE *herpes exedens*, so called, from its destroying or corroding the parts which it attacks, at first, generally appears, in the form of several small ulcerations, all collected into larger spots of different sizes and of various figures, with always more or less of an erysipelatous like inflammation. These ulcerations, discharge large quantities of a thin, sharp, serous matter, which sometimes forms into small crusts, that in a short time fall off; but most frequently the discharge is so thin and acrid, as to spread along the neighbouring parts, and there to produce the same kind of sores.

THOUGH these excoriations or ulcers, do not, in general, proceed farther than the cutis vera, yet sometimes the discharge is so very penetrating and corrosive, as to destroy the skin, cellular substance, and, on some occasions, the muscles themselves. It is this species of the disorder, which should properly be termed the *depascent* or *phagadenic ulcer*, from the great destruction of parts which it very frequently occasions; but by a piece of very great impropriety, ulcers of the herpetic kind have most commonly been considered as connected with scurvy, and have, there-

fore, by practitioners in general, been usually distinguished by the appellation of scorbutic. Whereas, there is nothing more certain, than that herpes is a complaint which is generally, if not always, connected with that state of the system, probably the most opposite of any, to that which takes place in true scurvy, I mean the plethoric and inflammatory ; whereas in scurvy, a high degree of putrescency is well known to constitute the very existence of the disease.

AND besides, the real scorbutic ulcer, hereafter to be described, exhibits appearances perfectly different from the disorder now under consideration ; insomuch that there is scarcely a possibility of mistaking the one for the other ; and the remedies necessary in the two diseases are just as opposite as their several symptoms and appearances are different.

THIS species of herpes, at times, appears in every part of the body, but most frequently about the loins, where it often spreads to such a degree as to surround the whole circumference of the waist. It seems to be easily communicated by contagion, that is, by the application of the virus,
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either through the intervention of cloaths, spoons, or other table utensils. This is indeed the case, in some degree, with every species of herpes; I have known instances even of the first or dry species of the disorder proving so, which would not *a priori* be so readily suspected.

§ 3. *Of the Cure of the cutaneous Ulcer.*

It was already remarked that, in the descriptions given of these disorders, there is very little accuracy to be met with amongst authors; the same confusion and uncertainty likewise occurs in the method of cure.

It was never, till lately, doubted, that eruptive diseases of this nature could ever appear but in consequence of some general morbid affection of the system; and accordingly, a great variety of internal remedies have been recommended by almost every author who has wrote upon the subject. It has even been commonly considered as an unsafe and dangerous practice, to attempt the cure of such eruptions, in any other way than by correcting the original disorder of the fluids which at first was supposed to produce them.

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IT is somewhat singular, however, that the opinion should so long have remained uncontroverted by regular practitioners, as, from the writings of many old authors, it appears, that these sort of complaints were constantly and easily cured, as they still are, by every itinerant practitioner, with local external applications only.

THIS, we should imagine, ought very soon to have overturned the general notion which prevailed with respect to the nature of these disorders, and which seemed all along to have no other foundation than antiquity for its support. Modern practitioners, however, not being shackled down by such authority, have, in many instances, ventured to dispute, and boldly to deviate from the opinions of their forefathers; and the improvements which have universally ensued from such a free spirit of inquiry, have never yet given them reason to repent their having done so.

THIS, in no circumstance, has been more remarkable, nor attended with better effects, than in the treatment of cutaneous disorders, which, from having been a perplexed intricate affair,
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will soon, it is hoped, become a very simple and easy branch of the practitioner's employment.

INSTEAD of the very tedious debilitating courses of medicines, which patients used formerly, and perhaps too frequently still are, in all such disorders, obliged to undergo, it is now found, that the greatest number of these complaints are much more certainly and speedily removed by the use of local remedies merely, than they ever are by a contrary course. This, probably, is one reason, amongst others, for all complaints of this nature being classed among local disorders, in the *Genera Morborum* of our justly celebrated professor Dr CULLEN; and which, without any other sanction, would, of itself, be sufficient authority for their being here inserted among such affections *.

THAT internal remedies may sometimes be of use, and even necessary, in many instances of cutaneous eruptions, will not, probably, ever be doubted; but that they ever prove serviceable in the way commonly imagined, *viz.* by correcting

* The character given by Dr Cullen of the class *Locales*, is, “*Partis, non totius corporis, affectio.*” Vid. *Synop. Nosolog. Method. Edinburgi.*

ting particular kinds of acrimony, supposed to exist in the mass of fluids, does not appear in the least probable : Nor do such internal remedies, being sometimes serviceable, prove any thing against the opinion of these cutaneous affections being, in general, only local disorders.

THUS, in many diseases of the skin, antimonials are frequently exhibited with considerable advantage ; but the principal advantages attending them seem to depend entirely upon their producing a determination to the skin, and keeping up a free discharge of the matter of perspiration ; which frequently, from want of cleanliness, and sometimes from other causes, being long retained on the surface of the body, and there turning acrid, may often, it is probable, give rise to many of our cutaneous affections : And accordingly we find, that all such remedies prove constantly more or less effectual, according as they are more or less powerful, in keeping up a free perspiration.

THIS, however, say those who contend for an acrimony of the fluids being the most common origin of such disorders, is an evident proof of
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our doctrine ; these antimonials, and other diaphoretic medicines, no doubt, prove, in such cases, very serviceable, but it is entirely in consequence of their evacuating or carrying off the morbid matter, with which the fluids, in these disorders, always abound.

MANY arguments, however, occur against the probability of this opinion ; but nothing farther seems necessary for its refutation, than to require of those who advance it, to shew how such matters, if they really existed in the system, should be more readily evacuated by these sudorifics than the other parts of the blood, with which they must, in the course of the circulation, be intimately mixed ; and in what manner such medicines should search out the morbid, and leave behind only such fluids as are perfectly sound and free from any taint of the disorder ?

THE opinion in question, does not appear so consistent as to require any farther refutation ; but what puts it beyond a doubt that all such medicines act entirely in consequence of preserving a free perspiration, and not by evacuating any fluids *particularly morbid*, is, that the very
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same effects, in all such complaints, are frequently to be obtained, merely by the use of repeated warm bathing, with a due attention to the other articles of cleanliness.

FROM this view of the theory of such complaints, many circumstances with respect to them can be much more clearly accounted for, than on any other supposition: Of these, however, we cannot here enter into a full consideration, and shall only observe, that by it may be explained the reason of such eruptions appearing very frequently in a partial way only, as they often do, by breaking out in a single spot, without affecting any other part of the surface. This we cannot suppose would frequently occur, if these disorders always proceeded from a general affection of the system; but it may very readily happen from a local stoppage of perspiration, occasioned by the application of such causes to particular parts as we know to be generally followed with that effect. And upon this principle, as was already remarked, is accounted for, much more obviously, the operation of the several remedies than on any other.

IN the treatment of every disorder of this kind, the first and principal circumstance to be attended to, is, that not only the parts affected, but even the whole surface of the body be kept as *clean and perspirable* as possible ; for which purpose, nothing is of so much consequence as the frequent use of warm bathing, together with gentle frictions with clean linen cloths, which, in the dry species of the complaint, may be applied over even the diseased parts ; but in the others, especially where considerable ulcerations occur, the frictions can only be applied to such parts of the body as are not, at the time, affected. When due attention is paid to this article of cleanliness, few or no internal remedies are ever necessary in the lighter species of herpes.

IN the way of external applications, both in the mild and in the more inveterate species of these disorders, the several drying and astringent remedies are most to be depended on : Of these, the most simple of all, is lime water, which, in light cases of dry tetter, often answers the purpose, but it seldom proves effectual in any of the others.

THE different solutions of lead in the vegetable acid, prove often, in affections of this nature, very effectual ; and of these the watery solution of *sacharum Saturni*, as directed in the treatise on inflammation, is always most to be depended on*. It may either be applied in the form of cataplasms, or on soft linen rags laid directly upon the parts. The latter is perhaps the most convenient method, and in these disorders, from its being more cleanly than poultices, it should therefore be preferred.

ALTHOUGH this, in general, is found to be a very useful application in these disorders, yet, in some particular cases, which have shewn a great degree of inveteracy, I have sometimes thought that weak solutions of corrosive sublimate in water, have proved more beneficial. About ten grains of the former, to a pound of the latter, makes, for all such affections, a very easy and efficacious wash.

DECOCTIONS of the different kinds of boles, and of the astringent earths, are sometimes too used with advantage in slight cases of this kind ; but, in general, the preparations of lead, as above directed,

* See page 41.

directed, with the watery solution of corrosive sublimate, prove a great deal more effectual, and do indeed, in a great measure, render every other application unnecessary.

OINTMENTS prepared with *sacharum Saturni*, and corrosive sublimate, have frequently too, in these disorders, been used with advantage ; but as in such forms, they must necessarily be combined with unctuous substances, they cannot of course prove so cleanly as the watery solutions of the remedies ; and as they cannot in that way prove in any respect more efficacious, they ought never therefore to be preferred.

By proper attention to the different circumstances taken notice of, many of the milder complaints of the herpetic kind are often got the better of ; but when the disorder is of a more inveterate nature, is of long standing, and especially when accustomed to discharge large quantities of matter, as in the *herpes exedens* frequently happens, other remedies come likewise to be necessary.

THE more obstinate and virulent such complaints are, the greater attention becomes requisite to the promotion of a free discharge by the skin; for which purpose, together with warm bathing, as formerly recommended, plenty of warm diluent drinks should be allowed. New raw whey answers in this view very well, and is likewise of use as a gentle laxative. Decoctions of Sarfaparilla and of Mezerion, both separately and combined, have, in different forms, been recommended for the same purpose; although I have known them used, however, in a variety of cases, I cannot say they ever seemed to produce any superior advantages to the common decoctum lignorum of the shops, which, when properly exhibited, proves always a very powerful diaphoretic. And when, at any time, it might be of service to have its effects in this way rendered still more considerable, it may commonly be done, by adding to each cup-full of the decoction, fifteen or twenty drops of tincture of Antimony.

WHEN, in this manner, two or three pounds of the remedy is taken at proper intervals, every twenty-four hours, it seldom fails of keeping up a very free perspiration.

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As a gentle diaphoretic too, I have often known of use, *Antimonium crudum preparatum*, given to the quantity of two drachms or so in the day, either in powder or in the form of an electuary: It commonly answers tolerably well by itself; but when conjoined with a small proportion of gum Guaiac, it seems not only to prove more certainly sudorific; but more readily goes off by stool, which, in some cases, renders their combination of service.

IN patients of plethoric habits, in whom complaints of this nature frequently occur, laxatives are often of use; and as such, those of the cooling kind only should be used: Sea-water is in this way very commonly prescribed in these disorders, and frequently answers exceedingly well. To many patients, however, salt-water proves so nauseous and disagreeable, that it cannot be exhibited in proper quantities: When that is the case, cream of Tartar, which is a much more agreeable medicine, may be used instead of it, and as it cannot be conveniently given in solution, on account of the large proportion of water necessary for dissolving it, the most commodious way of using it, is in the form of an electuary; six or
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eight drachms of the remedy in powder, with an equal quantity of sugar, being made into the consistence of a linctus, or of an electuary, with the mucilage of gum Arabic, makes an easy dose of a very agreeable laxative.

TOGETHER with these internal remedies, an issue, in the more inveterate species of herpes, becomes always necessary, and should in all such cases, indeed, be among the first articles prescribed ; for it is here, as with every ulcer of long standing, where the constitution has been accustomed by such drains, to throw off considerable quantities of superfluous fluids, by first establishing a proper outlet for these, the cure of the disorder, is not only rendered much more easy, but in reality more certain ; for when a cure is effected, without that precaution being attended to, the sores are very apt soon to break out again.

IN different eruptions of this kind, especially in the herpes exedens, very considerable degrees of inflammation often occur ; for the removal of which, warm poultices and fomentations, are generally had recourse to, but seldom or never with
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any advantage; and in no case whatever, does the superiority of saturnine applications, over the whole tribe of emollients in inflammatory affections, appear more evident than in this. For, the latter almost constantly seem to farther the spreading of the secreted acrid humour, and so, instead of removing inflammation, in such instances rather tend to promote it: Whereas, the different saturnine applications, appear not only to correct the acrimony of such humours, but tend greatly from that circumstance to prevent their spreading so far as they otherwise would do.

IN all superficial ulcerations of the herpetic kind, the saturnine and sublimate solutions, as already recommended, in general prove effectual; but whenever the ulcers have penetrated deep into the substance of the muscles and other parts, as they frequently enough do, an ointment prepared with calcined Zinc, I have sometimes found answer better; about two drachms of Zinc in fine powder, to six drachms of Axunge seems to be in general a proper proportion. It lessens the inflammation which commonly takes place, and has often a considerable effect in changing to a
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purulent nature, the discharge which is commonly very thin and acrid.

THE *unguentum saturninum* of the different dispensaries, is also, when newly prepared, a very proper application for the same purpose : It ought never, however, to be made use of after being long kept, as the lead seems thereby not only to lose its activity, which it in some measure in unctuous preparations always does, but that ointment, probably from its being prepared chiefly of Axunge, or of wax and oil without any addition of the antiseptic gums and resins, is much more apt to turn rancid than almost any other ointment in common use.

IN such cases too, an ointment prepared with Axunge and *Mercurius precipitatus albus*, I have sometimes known of use, but as it commonly occasions a good deal of pain and irritation it is not in every case admissible.

By a due continuance of the several remedies pointed out, whilst proper attention, is, at the same time, given to cleanliness, the most troublesome species of herpes, will, *in general*, be entirely
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ly got the better of: But in some instances, notwithstanding the use of all these, and of every other ordinary remedy, complaints of this nature still continue obstinate, do not seem to yield in the least, and frequently even turn more inveterate.

IN such cases, there is generally great reason for suspecting some other disease to subsist at the same time, which, on enquiry, is frequently found to be of the venereal kind; herpes very often appearing as a symptom of that disease: This, however, may commonly be known from the history of the complaint, and likewise from the situation of the eruptions; for all eruptions of this kind, which appear in Lues Venerea, are constantly above some of the hard thin covered bones, as those of the cranium, sternum and tibia; at least, in the beginning of the disorder, these are the parts chiefly affected; though, no doubt, in its more advanced stages, the whole surface comes to be more or less affected.

So soon as the complaint is discovered to be of the venereal kind, its cure must depend, in a great measure, upon the general treatment neces-

fary in that disorder ; so that by a proper use of mercury, with a continuance of the different remedies already enumerated for herpes, all affections of that nature, may, in due time, be expected to be got eradicated.

ON other occasions, again, and when there is no cause for suspecting a venereal taint, it sometimes happens, that even the slightest species of *tetter* resists all the common remedies, both internal and external, and perhaps too becomes more inveterate. In such cases, there is frequently conjoined with the disorder now under consideration, the common scabies or itch ; and when it happens to be so, as I have sometimes seen, a very disagreeable and troublesome disease comes to be produced ; what may be considered as a *tertium quid*, or a production of the two, which, in its appearance, is exceedingly lothsome ; little less so, indeed, than the descriptions given of the *Lepra* of the antients ; and when allowed to remain long, it proves sometimes almost as inveterate.

THE itch being such a well known disorder, its conjunction with herpes, is commonly very easily
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fily detected, and when once it is known to take place, the cure must consist in the several remedies already recommended for herpes, together with such as are more particularly active in the cure of scabies; and of which, though there are great varieties recommended by authors, yet none ever prove so certainly efficacious as sulphur. Mercury too, does, no doubt, often cure such complaints, as it does, indeed, the itch in all its stages, yet as it fails in many instances, which sulphur, when properly directed, very seldom does, the latter should, in general, be preferred.

WHEN, however, in such cases, it may for some reason or other be thought proper to make use of mercury, an ointment similar to what in the dispensatories is termed *unguentum Citrinum*, has, on many occasions, been found to answer exceedingly well: but as that ointment has commonly been ordered with too great a proportion of mercury, it frequently acts as a caustic, and occasions a good deal of irritation; that effect, however, is easily prevented, whilst, at the same time all the advantages of the remedy are preserved, by diminishing the quantity of mercury: Half an ounce of mercury dissolved in an equal quantity of

of strong spirit of nitre, to a pound either of Axunge or of fresh butter, has, upon trial, been found to be very proper proportions.

THIS makes a very effectual and perfectly safe ointment for all such eruptions, as partake either of a venereal taint, or are in the least connected with common itch ; to such as, for the latter, do not incline, on account of the smell, or for any other reason, to make use of sulphur, it seems to be by much the best method of applying mercury.

By a proper and continued use of the several remedies recommended, but above all by a due attention to cleanliness, almost every herpetic complaint may, at last, be removed.

AFTER these several observations on such disorders, it is not thought improper to remark, that there are many complaints of the eruptive kind, to which children especially are liable, which may all be reduced to one or other of the species of herpes enumerated, and which, of course, may be all cured by the same general method of treatment.

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THUS the *tinea capitis* and *crusta lactea* are commonly described as distinct and unconnected diseases ; but they both, it is presumed, may, with propriety enough, be reduced to the same species of herpes, and seem evidently, indeed, to belong to the second, or what we have termed *Pustulosus*, they being naturally exactly the same, differing only in situation, the *tinea* being on the hairy scalp, what *crusta lactea*, and other such eruptions, are upon the face.

THE several articles of cure enumerated for herpes in general, apply, as was observed, with equal propriety to any of these ; but in *tinea capitis* a peculiarity occurs from the situation of the disorder, which, in the treatment, it has been frequently found necessary to attend to. In this complaint, the hair, by occasioning a more considerable remora of the exuded matter, than what occurs in any other species of herpes, produces in it a greater degree of acrimony, which sometimes gives rise to bulbous swellings about the roots of the hair ; and hence it has been supposed, that these swellings, by being perhaps the first parts affected, tend to produce and to keep up all the other symptoms of the disorder : So
that

that it is commonly recommended, as the first step in the cure of tinea, to extract entirely all the hairs by the roots, either with pitch plaisters, or with some other adhesive application.

THIS, however, is always attended with a great deal of pain, sometimes produces very troublesome inflammations, and besides, is never in the least necessary in the first stages of the disorder ; for though, in very long continued cases of tinea, these tuberosities at the roots of the hair do sometimes become so considerable as to render the cure of such affections more tedious than they otherwise would be ; yet, merely by keeping the hair very short, and the parts affected as clean as possible, the different remedies already enumerated almost always effect a cure, without having recourse to the extraction of the hair.

THE watery solution of *corrosive sublimate* was already recommended as an external application for different herpetic eruptions ; but, in no species of the disorder does it produce such remarkable good effects as in *tinea capitis* ; insomuch, that, except in very inveterate cases, a cure may generally

generally be obtained by the use of this remedy alone.

ISSUES have already been mentioned as being very useful in all eruptive disorders of this kind ; but, in these complaints which, in childhood especially, are so common, they seem to be still more necessary, and more useful, than in the advanced periods of life ; for, as those children that are particularly liable to such eruptions, are commonly of very gross full habits, it is scarce possible often to obtain, at least lasting cures, without, in the first place, introducing adequate drains.

INDEED issues of themselves, with a proper attention to cleanliness, will very frequently, in the first years of childhood, get the better of all such complaints, without the assistance of any other remedy ; and they do not, by any means, prove so prejudicial to the constitution as the frequent use of purgative medicines, which, in such cases, are so commonly had recourse to : Purgatives do, no doubt, frequently prove serviceable, by carrying off such super-abundancies of fluids as the system happens to be loaded with, but never
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in such an easy gradual manner as is done by issues.

THERE has an objection been commonly made to the use of issues, in general, that they are very apt to become so far habitual as to prevent their being afterwards healed up, without considerable risk: This, in children, however, should never be any material obstacle to them, for, about the fifth or sixth year of age, when children are able to take more regular and fatiguing exercise, when the system having acquired a firmer tone, is rendered more capable of preserving a due balance between the solids and different contained fluids; and when, in fact, the latter are never observed to be so abundant as in the preceding years of childhood, there is not then the same necessity for such drains, and it might even, in some instances, be prejudicial to continue them longer. We do accordingly observe about that period of life, many of the eruptive disorders, which before had prevailed, disappear entirely; nature then requiring a greater supply of fluids for all the different secretions, throws off, by their means, what she formerly found most conveniently

ently got free of, by different eruptions upon the surface.

SECTION X.

Observations on the venereal Ulcer.

HAVING, in the several preceding sections, gone through the consideration of all such ulcers, as can, with propriety, be looked upon as local affections merely, those of an opposite nature come next in course to be treated of, and are, as was formerly remarked, to be comprehended in the *second class*.

THE general character of this class has been already given. It includes, as was formerly remarked, all such ulcers as are connected with or depend upon some general disorder of the system; and the several species of it, are, *the Venereal, the Scorbutic, and Scrophulous*.

HAVING spoke so fully upon the different species of local ulcers, all that is necessary to be

said upon those of the second class, is to point out as concisely and distinctly as possible, the different characteristics by which they may be distinguished ; together with such remedies as may be peculiar to, or proper for each, referring always to what may have been remarked in the preceding sections, for whatever may, in common occur between any two species of the different classes.

§ 1. *Varieties of the venereal Ulcer.*

By venereal ulcers, in general, are meant, such as are connected with an universal syphilitic affection of the system. But as *chancres*, and some other species of sores which occur in that disorder, may, with equal propriety, be termed *venereal ulcers* ; and although they are not always connected with a general infection, yet, in order to prevent any sort of ambiguity, it will be proper here to comprehend the consideration of these also.

VENEREAL ulcers then, may be divided into two varieties, *viz.* Those which appear as primary symptoms of the disease, and such as more properly may be considered as symptomatic.

OF the former kind are chancres in general, whether upon the parts of generation communicated by venereal intercourse; upon the nipples and breasts of women by nursing infected children; or on the lips and parts adjacent communicated by salutation; for all such sores, though seated on different parts, are of one and the same nature. These ulcers too, may sometimes be reckoned primary, which remain after the opening or bursting of such buboes as appear to have arisen from an infection lately communicated, and before there is any probability of the whole system being affected.

SUCH ulcers again are considered as symptomatic, which arise in consequence of a general taint of the habit; of this kind are all those which succeed to old buboes, and such as appear along with other venereal symptoms, a considerable time after exposure to infection; the most ordinary situations for which, are, the throat, palate, nose, the parts immediately above the bones of the cranium, tibia, humerus, and other hard bones thinly covered with flesh.

ALTHOUGH

ALTHOUGH, in many cases, it is not easy to distinguish such differences in venereal sores, yet it may frequently be done, and should then be always attended to, the treatment of the two different species being in some respects exceedingly different, as will be afterwards particularly taken notice of.

IN such cases, the principal means of distinction are obtained either by information from the patient, or from the appearances of the different sores themselves.

IF, soon after exposure to infection, an ulceration appears upon the part to which the virus was immediately applied, together with swellings of any of the glands in the course of the lymphatics, we may be almost convinced that these are both only local affections, and ought to be considered accordingly as primary symptoms. It is such ulcerations as thus occur from the immediate application of the venereal virus, which, in general, are termed chancres; they appear, at first, as small miliary spots, which soon rise and form little vesicles, that upon bursting, discharge sometimes a thin watery fluid, and, on other occasions,

a more thick yellow matter : The edges of such fores are generally hard and painful, and are, together with such glandular swellings, as already described, commonly attended with more or less inflammation.

THESE are the common appearances of venereal fores from a recent infection, but it is chiefly those ulcers which appear as symptoms of a long continued affection, that, to surgeons, prove most troublesome. They are distinguished from those already described, as likewise from every other species of ulcer. 1. By information from the patient. 2. By their situation. And 3. By their appearances.

WHENEVER an ulcer is suspected to be of this nature, certainty, with respect to it, may frequently be obtained from the patient. Thus, if a person who has long had other symptoms of a venereal infection in his constitution, is attacked with one or more ulcers, and that whether from external injuries or not, if they resist the common methods of cure, there can be very little doubt of their being infected with the general taint of the habit.

IT sometimes happens, however, that such information is not to be obtained, there being nothing more common than patients concealing and even denying, when enquired at, every thing of that nature ; and on other occasions, patients cannot even themselves be certain whether they are infected or not, having perhaps no other symptoms at the time, than these ulcers, and which they may not probably have considered as of the venereal kind. When this happens to be the case, recourse must be had to the situation and appearances of the ulcer itself.

By far the greatest part of venereal ulcers from an old infection, appear, as was already remarked, immediately above the bones, and such of these especially as are most thinly covered with muscles. They first appear in the form of a red somewhat purplish efflorescence, not circumscribed, but, in general, rather considerably diffused : This soon comes to rise into a number of very small pustules, which ooze out a thin fretting serum ; at first these pustules, when observed through a glass, appear perfectly distinct, but they at last run together, and form one large ulcer, whose edges are commonly ragged
and

and somewhat callous, and there is generally a light red appearance, which extends a considerable space beyond the sore, over the skin that does not seem to be otherwise diseased.

SORES of this kind, have frequently a very remarkable appearance, being hollowed out as it were into the form of a cup, generally narrow and contracted at the bottom, with the edges extending gradually till they reach the outward circumference. This at least, is commonly the case, except when carious bones happen to lie at the bottom of the sores, and then they are generally filled up with troublesome fungous excrescencies.

VENEREAL ulcers are not commonly attended with much pain, at least, seldom so much as from their appearances might be expected; in some instances, however, it is otherwise. And, the discharge of all such sores, though at first thin, comes, at last, to put on a very particular and characteristic appearance, being of a consistence rather more tough and viscid than good pus, with a very loathsome, though not the ordinary foetid, putrid smell; and a very singular *greenish yellow* colour.

THESE

THESE are the most common appearances of old venereal ulcers, and when all or any of them occur upon any of the situations enumerated, we may almost always determine with certainty, the complaint to be of the syphilitic kind.

THE distinction proposed of venereal ulcers into primary and symptomatic, is in the treatment found to be a matter of considerable importance; for those of the former kind, if attended to immediately on their first appearance, and before any absorption of matter has taken place, might, undoubtedly, be frequently removed without the assistance of any internal medicine whatever, and that merely, by converting an incipient chancre, into the state of a simple ulcer, by burning or destroying the venereal matter contained in it with caustic *.

BUT, although a cure might in this manner be sometimes effected with sufficient safety, yet as we have no means of becoming absolutely certain whether some of the virus may not have entered the system, the cure of even the slightest chancre should never be trusted to any other remedy

* Dr MONRO's Prelections.

medy than the internal use of mercury; with this material difference, however, that in incipient ulcers of this kind, a fourth part of the medicine commonly answers, than what becomes requisite in such as appear, in consequence of an old general infection.

THE distinction proposed, points out likewise another circumstance of consequence in the cure. In ulcers from an old pox, we ought never to make use of mercurial and other dressings with a view to heal and dry them up soon, but should rather trust entirely to mercury given internally, and, in the mean time, continue to apply such remedies only, as are necessary for keeping the sores clean and easy.

IN this manner, the different ulcers healing up merely by the use of internal remedies, proves almost a certainty of the disease being eradicated from the habit; and is, indeed, in such an event, the best index for a Surgeon to be directed by, as it shews plainly, that very little more mercury can be necessary, a circumstance which in no other way a practitioner can ever be so certainly convinced of.

WITH many practitioners, it has been the common method, to treat in the manner directed, chancres and all those venereal ulcers we have termed primary ; whilst, at the same time, they have not thought proper to apply the practice to those of long standing, or that proceed from a general infection of the system. But with very little attention, it must appear, that the direct reverse should be followed, and the advantages attending it would commonly be found considerable.

THE reasons for keeping old venereal ulcers open, during the internal exhibition of medicines, have been already explained. But in recent chancres, produced by a mere local application of a corroding matter, as they are entirely topical, and not connected with any disorder of the system, mercury given inwardly, has not in them near such a chance of effecting a cure ; and, accordingly, we often find, that after very considerable quantities of the medicine have been used, we are at last, after all, obliged to have recourse to some external application.

THIS, however, is far from being the greatest inconvenience attending the practice, for so long
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as a chancre or ulceration continues open, the system is so long exposed to a plentiful supply of venereal matter, and has thereby a much greater chance of being thoroughly infected than if the chancre or source of that matter had been healed soon after its appearance.

By some it may be alledged that it is not of much consequence, whether a small or a larger portion of the venereal matter be taken into the system, as the least particle may just as certainly produce all the symptoms of the disease, as if a much larger quantity had been admitted.

THIS, in some respects, may probably enough be the case, as the syphilitic matter is known to be of a very penetrating assimilating nature ; but there is surely a much greater chance of *a very small portion* of such matter being prevented from infecting the system, either by being stopped in its course, by occasioning, as it frequently does, obstructions of one or more glands, or even by being afterwards thrown out at some of the emunctories, than there is of a *constant supply* of the same sort of matter being in any way removed.

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THAT the opinion on this point is at least very probable, will not readily be controverted ; but it is likewise said, that the practice of treating chancres, by the use of internal remedies only, can never occasion any kind of risk, as the mercury, which is, or ought always, in such cases, to be exhibited, acting as a certain antidote to the venereal virus, must soon have got such a footing in the system as to prevent the latter from having any farther influence.

SUCH reasoning, however, is, in practice, by no means to be depended on : For, in the *first* place, though mercury in general proves a very certain cure for venereal complaints already subsisting in the constitution, yet mercury being present in the system, and that too in considerable quantities, does not prevent a new infection from taking place ; of this I have known many instances, and it would probably, if attended to, be found to occur very frequently.

BUT again, although we were even certain, if a proper quantity of mercury was present in the fluids, that no farther infection could take place from the introduction of a larger portion of venerea

nereal matter ; yet, in cases of chancre, we can never be sure that the medicine will so soon enter the circulation as to produce this prophylactic effect. For the disappointments that practitioners daily meet with in saturating the fluids properly with mercury, either from the fault of the preparation, from its going off by stool, or some other cause, should make us upon this point, at least very doubtful.

UPON the whole, therefore, the cure of chancres, and of all venereal ulcers of the same kind, should be hastened as much as possible, not only by internal medicines, but by external applications likewise.

§ 2. *Of the Cure of the venereal Ulcer.*

THE most effectual method in every case of chancre, as already hinted, would probably be, to touch the part with some strong caustic as soon as the disease is observed, and, by thus destroying at once all the venereal matter, the sore being then exactly in the state of a simple ulcer from any other cause, would, with ordinary dressings, be very easily cured : Practitioners, however,

ever, are seldom called in so early, and frequently not till the different ulcerations are considerably enlarged, when the practice could not readily prove effectual, and when it might sometimes even be dangerous to apply, so extensively, to such tender parts as chancres are commonly seated on, such irritating remedies as any of the more active caustics.

WHAT I have generally found to answer, in every case of ulcerated chancre not attended with much inflammation, is, after wiping the sores as free from matter as possible, to dust them well with *Mercurius precipitatus ruber* finely prepared, and to apply a pledgit of any common ointment over all. This does not *commonly* occasion much pain or irritation, and has the effect of producing a kind of slough over the sore, which, in the course of a dressing or two, generally comes away, and leaves the ulcer perfectly clean.

CHANCRES being reduced to this state, would probably soon heal, although no other dressing was applied than common cerate; but, lest any venereal matter should remain, I have always,
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after removing the dressings with the precipitate, been in the way of using the strong mercurial ointment of the Edinburgh Dispensatory, and to dress with it till the sores heal up.

IN this manner, in general, all such ulcerations are soon got the better of, and with much less mercury inwardly, than if allowed for any considerable time to remain open.

By long continuance, however, and neglect of proper remedies, even these, at first, seemingly simple sores, come to put on all the appearances of such ulcers as depend upon a general infection; and as in reality they then are such, in every respect, their treatment must vary accordingly.

ULCERS of this kind, upon the penis especially, when of long standing, are very apt to become inflamed, and then, by the pain they occasion, prove frequently exceedingly troublesome. When the inflammation comes any considerable length, blood-letting is sometimes requisite, but, in general, that symptom is easily enough kept under,
merely

merely by a continued and proper use of the Saturnine poultice.

THE inflammation being once thoroughly removed, the best application, in all such cases, is the wax ointment, as formerly recommended, till a proper quantity of mercury has been exhibited, and then the sores commonly heal, without any farther application.

THERE are two different modes in use for throwing mercury into the system; either by the mouth, or by the absorbents on the surface of the body, by means of friction: But, as the last of these methods is by much the most troublesome and inconvenient, and does not, upon trial, appear to be attended with any superior advantages, the former is now, I believe, very commonly preferred.

VARIOUS forms of mercury have been contrived for internal exhibition, but the simple triturated quick-silver pill, of the Edinburgh *Pharmacopœia*, is, in general, by much the best: It proves commonly more effectual, and is seldom attended with any of the inconveniencies which
often

often occur from the use of the different mercurial calces.

BUT whatever preparation of mercury be employed, it should always be continued till a foreness of the mouth be induced, that being the only certain indication of the medicine having entered the system ; and as such a degree of it is not attended with any of the inconveniencies which often ensue from a violent salivation, and, as from experience, it is now found to have all its advantages, it should never in any case be carried farther ; it not being the quantity of salivary matter discharged, that has any influence in the cure of venereal complaints, but the real quantity of active mercury introduced to the circulation.

IT is not always easy, however, to prevent mercury from running off too quickly by the mouth, so as sometimes to occasion very troublesome salivations. To guard against this circumstance by determining the medicine more particularly to the skin, the warm bath has been frequently recommended, both as a preliminary preparation, and to be used along with the mercury ; but the same effect, is, in general, more easily

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obtained, and with less risk to the patient from cold, by the use of a flannel shirt next the skin, and by drinking plentifully of *decoction of sarsaparilla or of the woods* ; care, at the same time, being taken to keep the body in a proper temperature, and that it be never exposed to any considerable degree of cold.

A course of this kind being continued for a longer or shorter period, according to the degree of infection, and violence of the symptoms, in general, at last, obtains a cure of all such complaints.

IN some instances, however, the quick-silver pill above recommended, either does not produce all the desired effects, or even fails altogether. On such occasions, the corrosive sublimate is frequently found to answer, and may be given either in the form of pills, or in the spiritous solution ; the former, however, never proves so nauseous as the latter, so that a larger quantity of the medicine can in that way be commonly exhibited.

IN very obstinate venereal ulcers, it becomes sometimes necessary to make trial of several different

ferent preparations of mercury, and one will, on particular occasions, be found very serviceable, though none of the rest may appear to have had any kind of influence.

THE most certain rule for the quantity of the medicine to be exhibited, is, that it should be always continued for sometime after every symptom of the disease has disappeared, and that for a longer or shorter period, as the disorder may have been of long or short standing, and as the symptoms may have been inveterate or otherwise ; but this very material circumstance in the cure of every venereal complaint, must be ultimately determined by the judgment of the practitioner in attendance.

THOUGH by such a course of mercury inwardly, with the necessary external treatment formerly pointed out, almost every ulcer of this nature, may, as was observed, be in general removed ; yet in some few instances it is otherwise, and the sores cannot be brought to cure, even though the mercury be continued very long after every other symptom has disappeared, and when, from that circumstance, and from the quantity of the
medicine

medicine exhibited, there is every reason to think that the venereal taint in the system is altogether eradicated.

As an ulcer in that situation, cannot with propriety be considered as a venereal affection, it would be in vain to expect a cure from the use of any preparation of mercury whatever; whenever such sores therefore, shew a greater obstinacy than what from their appearances might be expected, and, especially, when they do not yield in any degree to mercury, it gives great reason to suspect, that some other disease may probably have subsisted in the constitution, together with Lues Venerea, and that both may have had some share in the production of the ulcers.

So soon as the nature of this conjoined disorder is discovered, proper remedies must be had recourse to with a view to its correction, which being accomplished, the cure of the sores will in general go easily on.

ON some occasions, however, venereal ulcers prove obstinate, when the system appears perfectly free from every other disorder. In such cases, when

when the fores are seated upon, or near to any of the bones, especially if fungous excrescencies appear, there is commonly reason to suspect a caries as the cause, which, if on examination is found to be the case, the directions formerly laid down for the treatment of carious bones being attended to, whilst, at the same time the mercury is continued, if the patient is otherwise healthy, there will be little doubt of a cure being at last obtained.

IN some instances again, when there is no reason from the situation of the fores, to imagine that a caries can be the cause of their inveteracy, and although there is no appearance either of scrophula, scurvy, or of any other disease of the constitution, yet still they go on without shewing any disposition to heal, and perhaps, even seem to gain ground.

IN such cases, when the system is much reduced by long confinement and a tedious course of mercury, as it frequently indeed is when a violent salivation has been long kept up, the best and most effectual remedy, in general, is a good light nourishing diet, with the assistance of fresh
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air and moderate exercise, which, by invigorating the constitution, more certainly promotes a cure than all the medicines and applications commonly had recourse to.

IN all such circumstances indeed, the effects of a change of this nature is often surprising, for the most obstinate ulcers that have resisted every usual remedy, I have, in several instances, seen in this way only soon entirely cured: In this situation of these sores too, the Peruvian bark taken in proper quantities, frequently proves very serviceable.

WITH respect to the external treatment of old sores of this kind, as the sloughs they are commonly covered with, render some degree of stimulus always necessary, *common basilicon*, with a large proportion of *red precipitate*, answers for that purpose exceedingly well. Two drachms of the mercury to an ounce of ointment, make very good proportions, and afford one of the best dressings for every ulcer of this nature: And when, by the use of such an ointment, the sloughs have all cast off, and a discharge of proper matter has been induced, the treatment
must

must afterwards be regulated, according to the several circumstances already pointed out in the different preceding sections on local ulcers.

WHEN any of the glands happen to be the seats of venereal ulcers, as a kindly suppuration is in them always difficult to induce, it is sometimes necessary before a cure can be obtained to destroy, the whole, or a considerable portion of such as are very much hardened. This is most conveniently and easily done by reiterated applications of caustic, the surface of the affected glands being rubbed over every third or fourth day with *causticum lunare*, in the course of a short time so much of them as have been greatly diseased, may, in that manner, be destroyed; and the remainder, by proper attention to every other circumstance of the cure, being brought to furnish healthy granulations, the sores, without any farther difficulty, are thereby soon induced to heal.

ALTHOUGH, in general, by attending to all these different circumstances as appearances may indicate, almost every ulcer of the venereal kind may at last be removed, yet, in long habitual
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and reiterated poxes, that have never been properly cured, the very *stamina vitæ* come to be so corrupted through their whole organisation with the infection, as, in some instances, to produce such an inveteracy in ulcers, as does, indeed, baffle all the efforts both of nature and art, and at last carries off the patients in very great misery. Some such instances I have seen in different hospitals, where probably such very obstinate cases are only to be met with.

SECTION XI.

Observations on the scorbutic Ulcer.

§ 1. *General Remarks on Scurvy.*

IT was remarked in a former section, that, under the appellation of scorbutic ulcer, there have, in general, been ranked a great many of these eruptive diseases to which the skin is liable, as the itch, several species of lepra, &c.
But

But the real nature of true scurvy being now much better understood, and it being known that no such symptoms as eruptions of that kind ever occur in it, the impropriety either of applying the term scorbutic to such, or of treating them as symptoms of that disease, must appear exceedingly evident.

ULCERS which proceed from any of the fore-mentioned eruptive disorders, it was already remarked, are probably connected with a very opposite state of the system from those really scorbutic : The former generally, if not always, depending upon an inflammatory diathesis, whereas, in true scurvy, the fluids arrive at probably the highest degree of dissolution and putrefaction, which, in a living person, it is possible for them to attain to.

FROM the writings of several old authors, it appears, that scurvy was a well known disorder some ages ago ; but the true causes, symptoms and method of treatment of the disease were never very accurately understood, till Dr LIND's publication on the subject appeared.

THE several species of scurvy enumerated by authors, viz. *the Muriatic, the Alkaline, &c.* so named from the nature of the causes supposed to produce them, are now known to be very false and improper distinctions, the true scurvy being always of the same nature, and always produced by the same set of causes, wherever these occur, in whatever climate, and whether at sea or land.

§ 2. *Symptoms and Causes of the scorbutic Ulcer.*

AMONG other symptoms of scurvy enumerated by Dr LIND, in his ingenious Treatise on Scurvy, the ulcers which are so common in that disease, are particularly described, and as he gives a very clear and distinct idea of them, we shall here transcribe *verbatim* the Doctor's description of them.

“ THE distinguishing characteristics of scorbutic ulcers, are as follow : They afford no good digestion, but a thin foetid sanious stuff, mixed with blood ; which at length has the true appearance of coagulated gore lying caked on the surface of the ulcer, and is, with great difficulty, wiped off or separated from the parts below.

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THE flesh underneath these floughs feels, to the probe, soft or spongy, and is very putrid : No detergents or escharotics are here of any service, for, though such floughs be with great pains taken away, they are found again at next dressing, where the same sanguineous putrid appearance always presents itself : Their edges are generally of a livid colour, and puffed up with excrescencies of proud flesh, arising from below under the skin.

WHEN too tight a compression is made, in order to keep the fungus from rising, they are apt to leave a gangrenous disposition, and the member never fails to become œdematous, painful, and for most part spotted.

As the disease increases they at length come to shoot out a soft bloody fungus, which the sailors express by the name of *bullocks liver*, and indeed it has a near resemblance to that substance when boiled, both in colour and consistence. It often rises, in a night's time, to a monstrous size ; and, although destroyed by cauteries, actual or potential, or cut smooth with a bistoury, in which case a plentiful hæmorrhage generally ensues, it is
found,

found, at next dressing, as large as ever. They continue, however, in this condition a considerable time, without affecting the bones.

THE slightest bruises and wounds of scorbutic persons degenerate into such ulcers, their appearance, on whatever part of the body, is so singular and uniform, and they are so easily distinguished from all others, by being so remarkably putrid, bloody, and fungous, that we cannot here but take notice of the impropriety of referring most of the inveterate and obstinate ulcers in the legs, with very different appearances, to the scurvy.*

THIS accurate description of the scorbutic ulcer, comprehends almost the whole appearances ever observed in such affections, only it may be remarked, that at land, unless in very particular situations, and from a constant exposure to all the more active causes of scurvy, such inveteracy as described by Dr LIND, is not often met with : But in every country, and in none, perhaps, more frequently than in some parts of this kingdom, slighter degrees of the same kinds of sores
very

* See Lind's Treatise on the Scurvy.

very often occur, forming what, by practitioners in general, are termed *Foul* or *Malignant Ulcers*.

IN the Royal Infirmary of this place, sores of this kind are frequently met with, accompanied sometimes with even the most characteristic symptom of scurvy, soft spongy gums. In the worst cases, however, that I ever met with here, there never was the appearance of such a high degree of putrescency in the system, as we are told happens frequently in long voyages at sea.

THIS may perhaps be owing to such complaints of the scorbutic kind, as occur in this country, being generally among the lowest set of people, and proceeding rather from a real want of a *sufficient supply* of food, than from confinement to any one kind that can be at all considered as particularly *septic*, or as predisposing to scurvy.

IN such patients the putrid diathesis seldom even prevails to such a degree as to induce the formation of ulcers in parts previously sound, but never fails to shew itself in ulcers either already formed, or in such wounds as happen to be inflicted while such a state of the fluids subsists.

fists. Indeed very many of the ulcers upon the legs, and other parts of the generality of our poor people, frequently partake, more or less, of the real scorbutic taint ; as is evident, both from their appearances, causes, and particularly from the method of cure that is found to succeed best ; a good nourishing diet commonly doing more towards the effecting a cure than all the applications usually had recourse to.

THE immediate or proximate cause of such ulcers, as of every other scorbutic symptom, may be referred to a certain degree of putrefaction in the fluids ; which again may be induced by a variety of causes, but of which the most material are, living constantly upon salt provisions, a total want of vegetables, with exposure to a cold moist atmosphere : Many other exciting causes of the disorder might be mentioned, but as that would lead to a more extensive discussion of the subject than is here intended, for farther information, Dr Lind, Sir John Pringle, Huxham, with other publications more directly on the subject, may be consulted.

§ 3. *Of the Cure of the scorbutic Ulcer.*

THE cure of scorbutic ulcers, it is evident, must depend much upon the correction of the putrid diathesis in the system : For which purpose vegetables of all kinds, but especially those of an asceffant nature, with milk and whey, are found to be almost certain remedies. The different secretions, especially those by the skin and bladder, should be gently promoted, for the former particularly, in every case of scurvy, being put almost an entire stop to, the discharge being again restored, probably by carrying off many of the putrid particles with which the fluids, in such cases, abound, is found to have a considerable influence in the cure. Gentle laxatives too, for the same reasons, are of use, and as such, *Tamarinds and Crem of Tartar with Manna* answer well.

THESE, together with a total abstinence from salted food, and from all the other exciting causes of the disease, in a short time generally get the better of every scorbutic symptom, and among others of such ulcers ; the best external applications for which are antiseptics of the most powerful

powerful kinds. Lind recommends *Unguentum Ægyptiacum*, and *Mel Rosarum acidulated with Spiritus Vitrioli*.

THESE, in general, are the remedies found most effectual, and which are commonly had recourse to in very bad cases of scurvy; but in such putrid ulcers as in this country most frequently occur, the septic state of the fluids, as was observed, being seldom in such a high degree, it is very rarely necessary to be particularly attentive in putting the patients on what may properly be called an *anti-scorbutic* course.

THE common malignant or scorbutic ulcer of this climate seeming, as was already remarked, to proceed more frequently from a real deficiency of food than from any other circumstance, putting the patients, by degrees, upon a full allowance, with a daily though moderate proportion of some generous wine, has always a wonderful effect on their recovery.

THE Jesuit's bark too, is here a most powerful remedy, and is, indeed, in such ulcers, of more real and evident service, than in any other kind
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of fore I ever saw it used in : When given in proper quantities, which is always to be determined by the patient's stomach, it seldom fails of producing in the course of a few days, a considerable change for the better. For such scorbutic ulcers as occur in this country, the bark indeed, is almost the only internal medicine that is ever necessary.

WITH respect to the use of mercury in these kinds of ulcers, it ought always to be had in view, that in such as are really scorbutic, instead of acting as a remedy, if given in any considerable quantities, it proves almost a certain poison. Lind from a great deal of experience, says, with respect to this point : “ Mercury in a truly scor-
“ butic ulcer, is the most pernicious medicine
“ that can be used*.” So that a proper distinction between sores of this nature, and the several eruptive disorders commonly termed scorbutic, appears in the treatment a matter of considerable importance ; in the latter, mercury being not only generally given with impunity, but in some instances with advantage ; whereas in the former,

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* Vide, Treatise on the Scurvy, part II. chap. II.

it can never be administered but with very great hazard.

PERUVIAN bark, as an external application too, answers exceedingly well in all such ulcers ; pledgits dipped in the strong decoction of bark, and applied to the sores, have generally a great effect in correcting the fœtor and putrescency of the discharge : But the best application for that purpose in these ulcers, is the *carrot poultice*, which, when conjoined with the internal use of bark, and a proper regimen, in the course of a short time generally corrects the putrescency so effectually, that the sores being dressed for a few days longer, with pledgits of basilicon and red precipitate, with a view to procure the removal of any sloughs that remain, a cure is afterwards commonly easily obtained, by attending to the directions formerly laid down for the management of ulcers in general, and, particularly, to the introduction of an issue, along with moderate compression by means of a roller.

WHAT has hitherto been said, with regard to the treatment of scorbutic ulcers, applies in a great measure with equal propriety to all such
sores

fores as are in the least connected with a putrefcency of the fluids, from whatever causes that may have been induced. Thus, such fores as remain after critical abscesses that succeed to putrid fevers, require the same general method of treatment ; and the same may very probably be found the most effectual, in those produced by pestilential disorders, though, never having had an opportunity of seeing the real plague, I cannot from experience venture to assert it.

SECTION XII.

Observations on the scrophulous Ulcer.

§ 1. *Of the symptoms and causes of the scrophulous ulcer.*

BY scrophulous ulcers, are meant those fores, which remain after the opening or bursting of such swellings, as appear in different parts of the body, as symptoms of scrophula or evil.

FROM

FROM the frequent occurrence of scrophula, it is such a well known disease, that it is almost unnecessary here to give any description of it. It begins with indolent, somewhat hard colourless tumors, which at first chiefly affect the conglobate glands of the neck, but in process of time, the cellular substance, ligaments of the joints, and even the bones themselves come to suffer.

IN scrophula, the swellings are much more moveable than those of the schirrous kind, they are generally softer, and seldom attended with much pain : They are tedious in coming to supuration, are very apt to disappear suddenly, and again to rise in some other part of the body. We may likewise mention, as characteristic circumstances of this disease, a remarkable softness of the skin, a kind of fullness of the face, with generally large eyes, and a very delicate complexion.

ULCERS which appear in scrophula, never yield a good discharge, affording, upon their first appearance, a viscid, glairy, and sometimes a whitish curdled matter, that afterwards changes into a more thin watery sanies. The edges of the
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the fores are frequently, though not always, painful, and are constantly very much raised or tumified. So long as the scrophulous diathesis subsists in the constitution, such ulcers very often remain for a great length of time, without shewing any disposition either to heal or to turn worse; at other times they heal very quickly, and again break out in some other part of the body.

A variety of causes have been mentioned, as tending to produce scrophula, *viz.* a crude undigestable food; bad water; living in damp low situations; its being an hereditary disease; and in some countries endemic.

MANY other causes too have been enumerated by authors, but a full consideration of them we cannot here propose to enter into. This, however, may be observed, that whatever may, in different circumstances, be the exciting or predisposing causes of scrophula, the disease itself either depends upon, or is at least much connected with, a debility of the constitution in general, and probably of the lymphatic system in particular; the complaint always first shewing
itself

itself by some affections of the latter : And that debility has at least a considerable influence in its production, is probable, not only from the evident nature of many of the causes said to be productive of scrophula, but likewise from such remedies as are found most serviceable in the cure, which are all of a tonic invigorating nature.

§ 2. *Of the Cure of the scrophulous Ulcer.*

It was long supposed that scrophula depended upon an acid acrimony of the fluids, and this, it is probable, gave rise to the use of burnt sponge, different kinds of soap, and other alkaline substances, as being the best correctors of acidity. But although a sourness of the stomach, and *primæ viæ* does no doubt frequently occur in these complaints, yet it seems to be entirely the consequence of that general relaxation which in scrophula so universally prevails ; and which does not render it in the least necessary to suppose a general ascessancy of the fluids to take place, as the one very frequently, it is well known, even in other complaints, occurs, without such an acrimony as has here been supposed to exist being at all suspected.

THERE

THERE is another circumstance too, which renders it still more probable, that no kind of acrimony whatever exists in scrophula, *viz.* the very long continuance of matter collected in the different swellings which occur in this disease, without occasioning either much pain, or shewing any tendency to corrode the surrounding parts, there being many instances of such collections subsisting even for years, without exciting any kind of uneasiness: And, in fact, the several remedies recommended for the correction of such an acrimony as has been supposed to exist in scrophulous complaints, never have, at least so far as I have seen, any influence in the cure.

GENTLE mercurials are sometimes of use, as resolvents in scrophulous swellings, but nothing has ever such a considerable influence as a frequent and copious use of Peruvian bark: Cold bathing too, especially in the sea, together with frequent moderate exercise, is often of singular service here; as is likewise change of air, especially to a dry climate.

WITH respect to the treatment of scrophulous ulcers, so long as the general morbid diathesis continues

continues in the system, it is commonly in vain to attempt their cure; nor would it, indeed, often be safe, as by drying up the sores in one part, they very commonly break out somewhere else, and just as readily fall upon the lungs, or some other organ of consequence to life, as on any other.

SUCH instances, indeed, are very frequently met with, whether from the sores healing up naturally of themselves, or by the assistance of art; we should therefore be very cautious in the application either of repellent or of drying remedies, and should rather endeavour to correct the general disease of the habit, by the different strengthening remedies commonly found most useful in the cure.

TILL the disease is eradicated from the habit, all that should, in general, be done to the sores, is to give as free and open vents to the matter as possible, so as to prevent effectually the formation of sinuses.

THE best applications for scrophulous ulcers, are the different saturnine preparations; both
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the watery solution of *sacharum Saturni*, *Goulard's cerate* and *unguentum Saturninum*, answer exceedingly well, and tend greatly to prevent the spreading of scrophulous sores, which is otherwise very apt to occur, as likewise that inflammatory complexion which they so frequently put on, when relaxing applications are much made use of.

A continuation of such simple dressings, as these recommended, is all that, in general, should be attempted, so long as any disorder of the constitution may remain; but in some cases, the ulcers are so inveterate as to render other resources also necessary, they become swelled, painful, and discharge a corroding acrid matter.

WHEN such appearances occur, a carious bone may frequently be suspected to be at the bottom of the sores; and then nature must be assisted as much as possible, in freeing her from such parts of it as are most diseased, and that are become loose. This, in many situations, may be easily done, but when the complaint fixes on any of the large joints, art can seldom afford much assistance; and as amputation of the member is not, in these circumstances, often advise-

able, from the great risk of the disease returning in some other part, nature alone must generally be trusted to for a cure.

IN such a situation, therefore, as little can be expected from any operation for the removal of the disorder, the most effectual means should be adopted for assisting nature in getting the better of it. With this view, a continued use of sea-bathing often proves very serviceable ; but this remedy, in order to have any considerable effect, should be continued, with proper intervals, for a number of years, instead of a few weeks annually, which is all of it that is commonly thought necessary.

THE bark, as formerly directed, should still be continued, and I have sometimes observed very good effects from a conjunction of it with *cicuta* ; particularly in procuring a proper discharge from scrophulous fores.

WHEN, in course of time, and by proper attention to the different circumstances taken notice of, there is reason, from the fores shewing a tendency to heal, to suspect that the general morbid

bid disposition of the system is pretty much eradicated, nature is always greatly assisted in the cure, and that too is rendered much more safe, by the introduction of an issue somewhat proportioned to the discharge yielded by the different sores, and which, in all such cases, should certainly be continued for life.

GENTLE compression has, in the several preceding sections, been recommended for different kinds of ulcers ; but in no species of sore is it either so evidently indicated, or of so much utility, as in scrophulous ulcers : In which, that swelling and tumefaction, which frequently raise their edges to very considerable heights, often prove a greater hinderance to the cure than any other circumstance ; and which, when no considerable inflammation occurs, may always, by gentle compression, be easily and safely removed.

SUCH, in general, is the treatment which answers best in scrophulous ulcers ; but scrophula being one of those many diseases that so frequently put practitioners to the blush, from their never yet having discovered a proper remedy for it, nothing positive or certain can be said with respect

respect to it. All that was here intended being to point out, as concisely as possible, such a course *as most effectually assists nature in her efforts towards a cure.*

S E C T I O N XIII.

General Corollarics in the Management of Ulcers.

HAVING now gone through the consideration of all the different species of ulcers, it will not here, probably, be thought improper to exhibit, by way of conclusion, such general corollarics as naturally occur from the several observations thrown out in the preceding sections.

1. IT appears that, except in a few instances, *viz.* in Lues Venerea, Scrophula, and Scurvy, that ulcers are always to be considered merely as *local affections,*

2. THAT

2. THAT the varieties in the matters discharged by ulcers, excepting in one or other of the above mentioned disorders, depend always on some particular affection of the solids in the part diseased, and not on any morbid state of the blood, or other fluids.

3. THAT ulcers appear to be useful or otherwise to the constitution, not by the *quality of matter* afforded, but by the *quantity*: And accordingly, that the cure of even the oldest sore is rendered perfectly safe by the introduction and preservation of such an issue as will yield the same quantity of fluids the system has, by means of the ulcer, been accustomed to throw off.

4. THAT, in the cure of ulcers, the first circumstance to be determined, is, whether they are to be considered as general or topical complaints. If they appear to be of the former kind, such remedies must be administered, as are known to be most effectual for the correction of the disease they happen to be connected with; in other respects the treatment of such sores is nearly the same

same with those originally of an unmixed simple nature.

5. THAT, in the topical treatment of ulcers of every kind, the principal object to be had in view, is, to reduce them as nearly as possible to the state of simple purulent fores ; for which purpose the different remedies have been pointed out in the several preceding sections.

6. THAT ulcers being once reduced to the simple state above mentioned, their farther treatment, in general, becomes a very easy matter ; the cure being then to be entirely effected by a proper attention to the three following circumstances.

1st, To the introduction of an issue, as was lately observed, of such a size as may carry off the same quantity of fluids the system has, by means of the fore, been accustomed to get free of.

2^d, To the preservation of the matter discharged in a purulent form, the several means for which have been already fully pointed out ; but the principal of these, it may be remarked, are

are the avoiding every kind of irritation, by using the mildest dressings only, and preserving, in the parts affected, a proper degree of heat.

3d, To the application of gentle compression, not only upon the ulcer itself, but on the neighbouring sound parts also : This, in the cure of every sore, has been shewn to be a very material piece of practice.

THESE are, in short, the principal circumstances to be had in view in the management of ulcers, and which, in different parts of the preceding sections, have been more fully explained.



CHIRURGICAL
ESSAYS.

PART III.

Observations on WHITE SWELLINGS of
the JOINTS.

SECT. I.

Of the Symptoms and Causes of White Swellings.

§ 1. *General Remarks on White Swellings.*

THERE are not probably many disorders to which the human body is liable, which prove either of worse consequences to patients, or that are less understood by practitioners than

White Swellings of the joints : Infomuch that, whenever the disease is thoroughly formed, it is in general considered as incurable.

THIS ought certainly to be a very strong inducement, with every practitioner, for carrying his researches with respect to it as far as possible, and will, it is hoped, be a sufficient apology for these observations being now offered ; for, so long as we remain, with regard to any circumstance, in uncertainty, pointing out defects merely, though no material improvements should be proposed, may frequently, by exciting others to a farther prosecution of the inquiry, be a means, at last, of the subject being more accurately understood. And, if that effect should, in any degree, be the result of the following remarks, I shall always consider the time bestowed on them as having been usefully employed.

THE term *White Swelling* has commonly been applied to such enlargements of the joints, as are not attended with external inflammation or discolouration of the skin and common teguments : The only symptoms which at first commonly take place, being a greater or less degree of swelling,
with

with a deep seated pain. In the progress of the disease, indeed, the whole surrounding parts come to be so much affected, that inflammation is at last communicated to the skin itself, which terminating in abscesses and consequent ulcerations, it is not at all uncommon to find a great many openings surrounding the whole joints that are so diseased.

THOUGH there are, by different writers, several detached observations upon this complaint*, yet no regular account has ever been given of it, farther than what may be met with in general dissertations on diseases of the bones, they, *viz.* the bones having always been considered at the principal seat of such disorders.

§ 2. *Different species of white Swellings.*

THERE seems evidently to be two different species of white swellings, entirely distinct from one another ;

* See two papers in Vol. IV. of Edinburgh Medical Essays, one by Dr Monro, and the other by Dr Simpson.—*See also*, A paper on this subject, inserted in a Collection of pathological Inquiries and Observations in Surgery, by Richard Browne Cheston, Surgeon to the Gloucester Infirmary.

another ; and as the one is of a much more mild nature than the other, very frequently admitting of palliation, and sometimes even of complete cures, which the other never does, it would seem to be a matter of importance, so to characterise the different varieties, that the one may be easily and certainly distinguished from the other.

It is in this, however, as in many other diseases, that the complaint has frequently been of considerable standing before practitioners are called in : So that although, if seen from the beginning, and through all its different stages, it might generally be easily enough known of what particular nature the disorder in reality is, yet by being so much advanced as they frequently are, before assistance is desired, and the exact history of the symptoms being seldom to be obtained from patients themselves, it is often impossible in the latter stages of the disease, to make any accurate or certain distinction ; the symptoms of both species being then commonly exceedingly similar.

WHEN that is not the case, however, and the practitioner is called in before the symptoms have

have made any great progress, he may always, with a little attention, acquire almost a certainty with respect to the nature of the complaint. And, as I have had many opportunities of seeing every species of the disorder, in all its several stages, I propose, first, to give as exact an account as possible, of the rise and progress of the different symptoms in each species ; then to mention the several appearances of the joints, which in each, are observed on dissection, with the most common exciting and predisposing causes of the disorder ; and lastly, I shall enumerate the different remedies that I have known used for it, with their several effects.

SWELLINGS of this nature, it may be remarked, occur in every joint of the body ; but much more frequently in the large, than in the small joints : Thus there are probably twice the number to be met with in the knee and ankle joints, than are ever found in all the rest of the body besides.

§ 3. *Of the symptoms of the first, or rheumatic species of white Swelling.*

THE first and what may be considered as the most simple species of the disease, begins with an acute pain, which seems to be diffused over the whole joint, and frequently even extends along the tendinous and aponeurotic expansions of such muscles as communicate with the joint. There is from the beginning, an uniform swelling of the whole surrounding teguments, which in different patients is in very different degrees, but it is always so considerable, as to occasion an evident difference in point of size, between the diseased and sound joint of the opposite side: There is generally great tension prevails, but seldom in this period of the disorder any external discolouration.

THE patient from the first commencement of the disease, receives the greatest pain from motion of the joint, and always finding it easiest in a relaxed posture, it is, accordingly, kept constantly bent, which generally, in every situation, but more especially in the knee, begets a stiffness or
kind

kind of rigidity in the flexor tendons, which corresponds with it.

THIS rigidity of the tendons, has, by many, been considered as an original symptom of the disorder, but when duly attended to, it will always be found to be rather a consequence of the disease, and to have arisen from the above mentioned cause. In consequence too, of the total want of motion, which, from this circumstance, is always produced, such joints, in a very short time, generally become quite stiff and immovable, so as frequently, at first sight, to have the appearance of complete and real anchyloses.

IF the disorder, either by nature or by the effects of proper remedies, is not now carried off, the swelling which originally was not very considerable, begins gradually to augment, and goes on, till it sometimes acquires two or even three times the natural size of the part.

THE cuticular veins become turgid and varicose, the limb below the swelling decays considerably in its fleshy muscular substance, at the same time that it frequently acquires an equality in point of thickness,

thickness, by becoming œdematous ; the pain turns more intolerable, especially when the patient is warm in bed or otherwise heated ; and abscesses form in different parts of the swelling, and run in all different directions, at the same time that there frequently appears to be no immediate communication between the matters contained in them.

IN all these abscesses, a fluctuation of a fluid, upon pressure, is generally evident, as is the case, in every collection of matter not very deep seated ; but independent of that fluctuating sensation, all such swellings afford a very peculiar elastic feel, yielding to pressure, at the same time that they do not like œdematous swellings retain the mark, but instantly fill up any depressions, that by the finger, or otherwise, happen to be made in them.

THESE different collections, either upon breaking of themselves, or on being laid open, discharge considerable quantities of matter, which, at first, is generally purulent, and of a pretty good consistence ; it soon, however, degenerates into a thin foetid ill digested sanies, and has never,

ver, at least, in proportion to the quantity discharged, any remarkable influence, in reducing the size of the swellings, which still retain nearly their former dimensions.

IF the orifices from whence such matters flow, are not by art kept open, they very soon heal up, and new collections forming in different parts, again break out and heal as before : So that in long continued disorders of this kind, the whole surrounding teguments, are often entirely covered with cicatrices, that remain after such ulcers.

LONG before the disorder has arrived at this state, the patient's health has generally suffered considerably ; first, from the violence of the pain, which is often to such a degree, as to take away entirely both sleep and appetite ; and then, from the absorption of matter into the system, which always certainly takes place in some degree from its first formation in the different abscesses ; but which, indeed, never appears so evidently, till the several collections either burst of themselves, or are by incision laid open ; when a quick pulse, night sweats, and a weakning diarrhea, are always sure to occur ; and which, generally, at last,

carry off the patient, if the member is not either amputated, or if a cure of the disorder is not in one way or another effected.

THESE are the several symptoms of this species of white swelling, in all its different stages: We shall now, as was proposed, enumerate the appearances that in general are observed, on dissecting such swelled joints after amputation of the member.

§ 4. *Appearances observed on dissection, in the first species of white Swelling.*

IN some cases, the pain even in this species of the complaint, is from the beginning so violent, that practitioners are led at once to conclude it to be of the worst and most incurable kind: And patients, rather than suffer a long continuance of such a torment as it is often attended with, and after all, remain in uncertainty with respect to a cure being obtained, frequently prefer immediate amputation of the member.

SEVERAL such instances I have seen, where the operation has been performed in very early periods of the complaints. In all of these, the only

ly preternatural affection observed on laying open the swellings, was, a considerable morbid thickening of the surrounding ligaments, without any disease of the joint whatever; the bones and cartilages always remaining perfectly sound, as likewise the synovia, both with respect to quantity and consistence.

THIS thickning of the ligaments, though, in general, it appears in a greater or lesser degree, according as the complaint has been of long or short standing, yet it is not always the case; for, in some recent instances, the ligaments have appeared more diseased than in others where the disorder had continued longer: In the former, indeed, the symptoms were always found to have been very violent.

IN the more advanced stages of the disorder, when abscesses have formed in different parts, when the pain has been long very violent with great addition of swelling, on laying open the parts, the thickning of the ligaments is then found more considerable, and is generally, if not always, attended with an effusion into the surrounding cellular substance, of a thick glairy
kind

kind of matter, which appears to be the cause of that springy feel peculiar to such swellings, as was formerly taken notice of in the description.

THE different abscesses or collections of matter, are found to run in various directions through this glairy albuminous kind of stuff, without, however, seeming to mix with it. In some few instances again, together with collections of pus, a great many small hydatides are observed; and in the farther progress of the disorder, all these together form such a confused mass of different matters and substances, that it is almost impossible, by dissection, to trace them farther than is at once observed on their first being laid open.

EVEN all these appearances I have known occur, without any affection of the bones of the joint, both they and the surrounding cartilages, upon cutting through the capsular ligaments, remaining perfectly sound.

WHEN, however, by a very long continuance of the complaint, these ligaments come to be corroded by the different collections of matter, the
the

the cartilages then, and in consequence the bones, are very soon brought to suffer, the latter becoming carious, so soon as the former, by the acrimony of the matter, have been abraded.

THE tendons of the flexor muscles, which are always in this disease, as was already mentioned, very stiff and much contracted, do not, upon dissection, afford any evident morbid appearances, either with respect to hardness or enlargement. We shall now, as was proposed, give a description of the other species of the disorder.

§ 5. *Of the Symptoms of the more inveterate or scrophulous species of white Swelling.*

IN this species of the disease, the pain is commonly very violent, more acute generally than in the other, and instead of being diffused, is more confined to a particular spot, most frequently to the very middle of the joint: In some instances I have known the patients say they could cover the whole pained part with the size of a crown-piece or less.

THE swelling is at first commonly very inconsiderable, in so much that, on some occasions, even when the pain has been very violent, very little difference, in point of size, can be observed between the diseased and sound joint of the opposite side. In this, as in the other species of the disease, the least degree of motion always gives very great pain, so that the joint being here too constantly kept in a bent position, that stiffness and rigidity of the tendons come likewise soon to be produced.

As the disorder advances, the pain turns more violent, and the swelling becomes more considerable, with an evident enlargement of the ends of such bones as compose the joints.

IN process of time, the tumour gets that elastic feel formerly taken notice of, varicose veins appear over its surface, and collections of matter occur in different parts of it : These, upon bursting or being laid open, discharge considerable quantities, sometimes of a purulent like matter, but most frequently of a thin foetid stuff; and if a probe be introduced, and can be passed to the bottom of the sores, the bones are found carious,
and

and pieces of them are often discharged at the openings.

ON the farther continuance of the disorder, the constitution comes here likewise to suffer as in the first species of the disease ; and a diarrhea, with night sweats commencing, the patient is soon reduced from perhaps the fullest habit, to little more than skin and bone.

§ 6. *Appearances observed on dissection, in the scrophulous species of white Swelling.*

UPON such joints being dissected, either after death, or after amputation of the member, in the first stages of the disorder, the soft parts seem very little affected ; but in all, even the slightest that I had ever an opportunity of seeing, there was constantly observed, an enlargement either of the whole ends of the bones, or of their epiphyses ; frequently of those on one side of the joint only ; in others again, the bones on both sides have been affected.

THIS enlargement sometimes occurs, without any other evident disease, but in general, and always

ways in a more advanced state of the complaint, the soft spongy parts of such bones, appear dissolved into a thin, fluid, foetid matter, and that too, in some cases, without the cartilages which surround them seeming much affected. In process of time, however, the cartilages come likewise to be dissolved, and then the different matters, *viz.* that of the bones and softer parts, all mixing together, such swellings being in that state laid open, exhibit a still more confused collection than is generally observed, even in the worst stages of the other species of the disorder.

ALTHOUGH it was remarked, that, in the early periods of the complaint, the surrounding soft parts do not always appear much affected, yet, in its farther progress, they likewise are always brought to suffer. The ligaments become thickened, and the contiguous cellular membrane stuffed with that viscid glairy kind of matter, as observed in the other species of the disorder.

§ 7. *Of the Causes of white Swellings of the Joints.*

HAVING thus given a particular account of the different appearances generally observed in both species of white swelling, we come now, in course, to the consideration of the different causes which tend to produce them : And, to go on in the same order with the descriptions that have been given, we shall first enumerate those that are particularly connected with that which we termed the first or *Rheumatic* species of the disorder.

IN this way may be mentioned as causes, all such strains as particularly affect the ligaments of the joints, so as to produce inflammation ; likewise bruises, luxations of the bones, and, in short every affection which can, in any degree, be attended with that effect.

A rheumatic disposition, or diathesis as it is termed, may here too be taken notice of as a principal cause of this species of white swelling ; for, in every rheumatic affection, the parts most liable to be attacked are the ligaments of the

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joints,

joints, and other deep seated membranes. The disorder occurring most frequently in the large joints, especially in the knee, is a strong argument too for the rheumatic disposition having a considerable influence in its production; for it is well known that rheumatism, in its most evident form, does really more frequently attack the larger joints than any of the smaller: And, in fact, we find this species of white swelling occurs more frequently in young plethoric people, in whom the rheumatic diathesis most frequently prevails, than it ever does in those of an opposite temperament.

THAT it is the ligaments of the joints only which are first affected in this disorder, is from the history of the dissections, rendered evident; they, in the first stages of the complaint, being almost the only parts that are found diseased. The effusions into the cellular membrane of that thick glairy matter taken notice of, are probably occasioned by an exudation from the vessels of these ligaments that have been originally inflamed, it being known that such parts never furnish a proper fluid for the formation of purulent matter: In the course of the disease, indeed, ab-

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cesses containing real pus do always appear, but never till inflammation has been communicated to the surrounding parts, which more readily afford a fluid proper for that purpose.

I would therefore, upon the whole, conclude, that this species of white swelling is at first always occasioned by *an inflammatory or rheumatic affection* of the ligaments of such joints as it attacks, and that too from whatever cause such inflammation may originally have proceeded.

THE other species of the disorder, from all the symptoms enumerated, and from the different appearances on dissection, seems evidently to be originally an affection of the bones; the surrounding soft parts coming only to suffer in the progress of the disease, from their connection with, and vicinity to these.

THIS species of white swelling very seldom occurs, as the consequence of any external accident; generally beginning without the patient being in the least able to account for it, and from the effects which it usually produces on the bones attacked, it would appear to be a species of the
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real *spina ventosa*, and which again is very probably a disease of the same nature in the bones, as scrophula is of the soft parts. Indeed, the appearances of the two disorders, after making allowance for their different situations, are exceedingly similar ; they both begin with considerable enlargements or swellings of the parts they invade, which afterwards in both, too, generally end in evident ulcerations ; and they both likewise frequently occur in the same person and at the same time.

It is likewise observed, that this species of white swelling is generally either attended with other evident symptoms of scrophula subsisting at the time ; or that the patient in an earlier period of life has been subject to that disease ; or, what is nearly the same, that he is descended from scrophulous parents, and consequently, most probably, has the seeds of that disease lurking in his constitution.

From all these circumstances, it may, I think, with probability be concluded, that this species of white swelling is commonly, if not always, of a scrophulous nature ; and it having already been
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shewn, that the other species of the disorder is to be considered as an inflammatory, or what we have termed a rheumatic affection; and, a thorough distinction of the two different species being in the treatment a matter of very great importance, it will not here be improper to give a short enumeration, of the several diagnostic or most characteristic symptoms of each.

§ 8. *Diagnosis.*

THE pain in the white swelling from a rheumatic disposition, is, as was formerly remarked, always, from the beginning, diffused over the whole joint, and on some occasions, extends even a considerable way along the muscles that are attached to it: Whereas, in the other species of the disorder, the pain is not only always at first, but sometimes, even when the complaint has been of considerable standing, confined to a very small circumscribed space.

IN the former the swelling is always confined to the soft parts, and is from the beginning exceedingly evident; but in the latter, there is seldom for some time any perceptible swelling, and
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when it does more sensibly appear, the bones are found evidently to be the parts chiefly affected, the surrounding teguments coming only to suffer on a farther progress of the disease.

THESE are the chief local differences of the two species of this disorder ; but some assistance in the distinction may likewise be obtained, from the general habit of the patient, and from the manner in which the complaint may seem to have been produced.

THUS, when such swellings occur, in young, strong, plethoric people, especially in such as have formerly been subject to rheumatism, and that whether in consequence of an immediate external accident or not, such, most probably, will always prove to be of the mildest, or rheumatic species of the disorder.

WHEREAS, when swellings of this nature appear in such patients as are otherwise evidently of scrophulous dispositions, where together with a fine skin and delicate complexion, there are either, on examination, found hardened glands in the neck, arm-pits, or inguina ; or, it is discovered,

covered, that the patient has, from his ancestors, a title to such complaints ; when either any, or all of these circumstances occur, and if the disorder has begun in the manner formerly described, without any *evident external cause*, we need be under very little doubt in concluding it to be of a scrophulous nature.

THE great utility of properly distinguishing the two different species of white swelling, appears in no circumstance so evident as in the treatment : In the one there being some chance by proper remedies of being serviceable to the patient ; whereas in the other, *viz.* the scrophulous, it is not probable that art will ever be able to afford much assistance.

S E C T I O N II.*Of the Treatment of white Swellings.*

§ I. *Of the Effects of an antiphlogistic Course in the rheumatic Species of white Swelling.*

IN the rheumatic white swelling, as it is always at first evidently of an inflammatory nature, considerable advantages are commonly obtained by a due attention to a proper antiphlogistic course.

THE first remedy, which, with this view, should be put in practice, is blood-letting; but instead of general evacuations from the arm or elsewhere, it proves always more effectual to take the blood immediately from the part affected: Cupping and scarifying is here a principal remedy; the instrument should be applied to each side of the diseased joint, on each side of the rotula
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for instance, when the knee is the part affected, and at least eight or ten ounces of blood discharged; and this to be repeated at proper intervals, once, twice or oftener, according to the violence of the symptoms, and state of the patient's strength at the time.

IN the ordinary way of discharging only an ounce or two of blood by this operation, it has, in general, very little or no influence; but in the quantities mentioned, and which, by those accustomed to the practice, is commonly easily obtained, it most frequently is attended with very considerable effects.

IT must here be observed, that cupping is, in these cases, much superior to leeches, which is not only a more tedious method of getting the same quantity of blood, but the swelling occasioned, by the application of any considerable number of these animals, proves frequently very troublesome; and what is often of worse consequences, gives sometimes an interruption, for a time, to the use of other remedies.

UPON the anterior part of the joint, where the cupping glasses have not been placed, a small blister should be directly applied, and the part kept open with issue-ointment, till the wounds from the scarificator are so far healed, that a vesicatory may likewise be laid on one side of the joint; and so soon as that is nearly healed, the other side should be also blistered.

By thus alternately applying them, first to the one side, and then to the other, almost a constant stimulus is kept up, which, in deep seated inflammations, seems to have fully a greater influence than all the discharge occasioned by blisters.

GENTLE cooling laxatives, at proper intervals, are here of use too; and the patient should, in every respect, be kept upon a strict antiphlogistic course, both as to diet and every other circumstance: From a due attention to which, with a continuance of the topical treatment already recommended, I have frequently observed very considerable advantages, more indeed than from any other remedies I ever saw used in this complaint.

IT is in the first stages only, however, of the disease, that such a course can probably be of much service ; and in such, I am, from experience, convinced, that it has frequently been a means of curing disorders, which otherwise would probably have proceeded to the last stages of white swellings.

THE original inflammatory affection being once over, these sort of drains seem to have little or no influence, and ought not then to be long persisted in, as tending to prevent the use of other remedies, which, in an advanced state of the disease, prove commonly more efficacious.

§ 2. *Of the Effects of Mercury, Friction, and other Remedies, in the more advanced Stages of white Swelling.*

THE inflammation being mostly gone, and while there are yet no appearances of the formation of matter, mercury, in these circumstances, I have sometimes known of use, not given so as to salivate, but merely to affect the mouth gently, and to keep it somewhat sore for a few weeks.

THE best form of using mercury, in such cases, is certainly by way of unction, as it allows, at the same time of the application of friction, which, in all such swellings, may of itself be, in some measure, considered as a remedy. For this purpose, an ointment of quick-silver and hog's lard should be prepared, but with so small a proportion of the former, that the patient may admit of two drachms of the ointment being rubbed in, three times a day. In order to rub that quantity of the medicine in with gentle friction, an hour each time is, at least, necessary, and which is as little as should ever be given, in order to receive all the advantages that attend the practice ; for however useful friction, in such cases, may be when properly applied, in the ordinary way of continuing the remedy for a few minutes only, it is not probable it can ever have much influence.

GENTLE mercurials given internally, are here sometimes of service too ; but, as all the advantages to be derived from them in that form, are obtained from the unction, together with that of the friction necessary for its application, the latter, in all such cases, should certainly be preferred.

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By Le Dran, and other French writers, falls of warm water on swellings of this nature are much recommended, and I have no sort of doubt but a long continued and reiterated application of that remedy may, in the first stages of such complaints, be often attended with very good effects; a few instances of this I have seen indeed, but never having had proper opportunities for making the application, I cannot, from experience, say much upon the subject: Only, from the well known relaxing property of moisture when conjoined with heat, there is the greatest reason to think, that a proper use, especially of warm emollient steams, would, in all such disorders, be found a very powerful remedy.

IN the use of warm water in cases of white swelling, the friction occasioned by its fall on the part, independent of every other circumstance, may probably have a very considerable influence: At least this, I think, is the principal effect, which *cold water* can, in that way, produce; I have known it frequently used, and, on some occasions, with advantage.

By a proper use of these different applications, *viz.* of the several topical remedies in the first or inflammatory state of the disease; and afterwards, still, however, before the formation of matter, of mercurials, friction, &c. many affections of this nature have been entirely removed: But, in many instances, when, either by the use of medicines, or by an effort of nature, the swelling and pain are almost entirely, or even wholly removed, it frequently happens, by the bent position the limb has been for a long time kept in, that the use of the joint comes to be entirely lost, having often acquired such a degree of stiffness, that any attempts to move it are commonly attended with very great pain.

UNLUCKILY, in all such cases, these affections of the joints have been constantly attributed to one or other of two different causes, which are both in their natures incurable, *viz.* either to the ends of such bones as compose the joints having run into one another, so as to become firmly conjoined in consequence of the surrounding cartilages being abraded; or, to the *inspissation*, as it is termed, of the *synovia* of the joints, whereby their cavities are supposed to be entirely filled up,
and

and no space thereby left for the future motion of the different bones.

BOTH these opinions, however, I can, from a great number of facts, assert to be, in general at least, very ill founded; for although, by an abrasion of the cartilages which surround the different bones at the joints, an union of their extremities may very readily be occasioned, and is no doubt, *on some occasions*, the cause of such affections, yet, from a variety of dissections, I am convinced that it is an exceeding rare occurrence, and, in cases of white swelling, never happens but in the most advanced stages of the disorder; the only causes, almost, of the stiffness of joints, in such cases, being that contracted state of the flexor tendons, formerly taken notice of in the description; at least in nineteen cases out of twenty it probably is so.

THERE is nothing indeed more deceiving than the feel on such occasions; for when the disorder has been of long standing, the stiffness and immobility are generally so considerable, as at first sight, always to appear as if a real conjunction of the bones certainly subsisted: Many instances

stances of which I have known, that had been all along considered as real anchyloses of the worst kind, but which, on dissection, were constantly found to proceed merely from a contracted state of the flexor muscles and tendons.

WITH respect to the other opinion, which formerly so universally, and with many still does prevail, of such affections generally proceeding from an inspissated state of the synovial fluid, it has, for sometime, by many anatomists, been much doubted if it ever occurs; and from all the opportunities I have had of dissecting such diseased joints, I am pretty much convinced, that it either never does take place; or, at least, that it is an exceeding rare occurrence. For, in every case of this kind, even when the disease had been of very long continuance, if the capsular ligament of the joint remained undivided, so that no matter from the surrounding soft parts got admittance, and when the ends of the bones were not become carious, the synovia always retained its natural appearances, both in colour and consistence: So that it is very probable, the many causes of diseased joints, attributed to affections of that fluid, have been

been more founded on mere hypotheses, than on facts and experience.

THIS stiffness of the joint, therefore, which, to a certain degree, always occurs in white swellings, proceeding seldom or never from either of the causes mentioned, which might probably both be considered as incurable, but merely from a preternatural contraction of the muscles and tendons, we have, from that circumstance, great reason to expect, that in many situations a good deal may be done towards its removal. And in fact, there is no sort of doubt but complaints of this kind, which often remain after every other symptom of white swelling has disappeared, may, on many occasions, be got the better of, merely by a long continued use of emollients; several instances, indeed, of this, I have seen, some of which had been thought to be of the worst species of anchylosis.

THE best and probably least offensive emollient that can be used, is pure olive oil applied warm; as much of it as can be easily rubbed in by an hour's gentle friction, should be regularly done at least three times a day, and instead of confining

the friction altogether to the rigid tendons as is commonly done, it should be extended over the whole muscles, even to the insertions of their other extremities ; but more especially on their fleshy muscular parts, where the principal cause of the continuance of such complaints is probably seated ; these parts being chiefly, if not altogether possessed of the contractile, and, consequently, of the resisting powers.

I have known used too in this complaint, as an emollient, and often with advantage, an oil extracted from animal substances, known by the name of *Neats foot oil* ; but as it is more apt to turn rancid than olive oil, it is not, therefore, such a pleasant application, and not being possessed of any superior relaxing properties, the other will probably, for that reason, be commonly preferred.

THE disorder now under consideration, *viz.* a stiff joint, is so evidently one of those which particularly require the use of emollients, that almost every old woman has some particular form or other of recommending them ; one of which I cannot avoid mentioning, as I have frequently known

known it used, and in two cases, particularly, with very evident advantages, *viz.* The web or omentum of a new killed sheep, or of any other animal, to be applied over all the diseased parts directly on being cut out of the animal.

IN the two cases alluded to, one was in the knee, and the other in the hand, and the joints from having been totally useless, were almost perfectly restored: The application should be renewed as frequently as possible, once a day at least, or oftener when it can be done, for on being more than four or five hours applied, it becomes disagreeable; and, after that time, indeed, as it commonly turns stiff, it cannot then probably be of much service. The same kind of remedy, used in somewhat a different manner, I find recommended by LIEUTAUD a celebrated French practitioner.*

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* Mr Lieutaud says, when speaking of such affections, “*Obvolvitur etiam pars affecta pelle callida vervecis, vetuli alteriusve pecudis, recens macerati, vel immittitur inum ventrum bovis, vitali caloræ haud defraudate.*” *Synopsis Universæ Praxeos Medicæ*, Vol. I. p. 400.

I have been the more particular on this part of the subject, as I have often thought, with a little attention, the use of many joints might be recovered, which, from a mistaken notion concerning their causes, have generally from the first been considered as incurable.

THE disorder has hitherto been supposed, not to be so far advanced, as to have occasioned the formation of matter, for when come that length, no considerable advantages can be expected from any of the remedies as yet recommended ; but even in that state of the complaint, if the patient's health does not absolutely require it, amputation of the member should by no means be immediately had recourse to as it most frequently is. For, by paying attention to open the different abscesses soon after their formation, the matter may, in that way, be pretty certainly prevented from destroying the capsular ligaments of the joints, which, if once effected, would no doubt, in time, render that operation necessary.

AND by the use of the seton, as was formerly directed in other cases of imposthume, the discharge

charge of such collections is certainly and easily effected, is never attended with any inconvenience, and has sometimes, and may frequently be a means of saving many such diseased joints. At least, when a limb is at stake, the practice recommended is on all occasions worth trying, and there never, it is probable, can be any well grounded objection made to it, unless the patient's constitution be so much reduced as to render any farther delay attended with considerable risk, in which case, amputation is, no doubt, to be immediately had recourse to ; though if such abscesses as occur, be opened directly on their first formation, there will always be sufficient time for observing what effects are to be obtained from the discharge so produced,

It may here be observed too, with respect to the most proper period of the disease for amputating such limbs, that even, in point of success from the operation, it ought never to be advised till the complaint is pretty far advanced ; for though, *a priori*, it might be imagined, that the more early, in the disease, amputation of the member is had recourse to, the more successful it should prove, and although this, indeed, has
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been made a common argument for amputating very early in every case of white swelling, yet, however plausible the observation may appear, it will not, from experience, I am certain, be found to hold good. For, in this disorder especially, I have constantly observed, that amputation has more frequently succeeded, that is, a greater proportion of such patients have recovered from it, who have previously been considerably reduced by diarrheas, and other weakning symptoms, than of such as have still remained in a full plethoric habit of body.

IN the former, when the constitution has not been *too much* broke, and which practitioners have always in their power to guard against, the several symptoms of hectic, which previously took place, are commonly removed in a very few days after the limb is taken off: No high inflammatory affections are ever produced, the patient daily mends in his health, and a complete cure, if the patient has not been *too much reduced*, is generally very soon obtained. In the latter again, the very reverse of all these circumstances occur, the patient, from being in high health at the time of the operation, is generally thrown into a
smart

smart inflammatory fever, which is, no doubt, very often got the better of; but which frequently either carries off the patient immediately, or produces such effects as he never thoroughly recovers from.

So that in no case whatever should amputation be had recourse to, until every probable means for saving the limb has been tried in vain.

ALL the different observations hitherto made upon the treatment, relate particularly to the rheumatic species of the disorder, and when had recourse to in time, and duly persisted in, they will frequently be found of service; but when the disease is so far advanced as to have destroyed the capsular ligaments of the joint, and perhaps even the cartilages and bones themselves, amputation of the member is then no doubt the only resource.

IN the more fatal species of white swelling, *viz.* the scrophulous, as I know no certain remedy for scrophula even in its milder form in the soft parts of the body, I cannot here pretend to offer any thing satisfactory upon the subject.

IN the small joints, when the diseased parts of the bone begin to cast off, a cure may in that way, by assisting the efforts of nature, be sometimes obtained ; but in all the large joints, as the knee, ankle, &c. it is not probable that any other resource than amputation will ever afford much relief ; and even the effects of that operation can seldom be depended on as lasting ; for when the general scrophulous taint still subsists in the constitution, the disorder will most probably appear again in some other part ; which, however, in the advanced stages of the disease, it is sometimes necessary to run the risk of, the pain being often so tormenting as to make it more eligible to submit to any hazard rather than to bear it longer.

WHEN, however, for some reason or other, amputation is determined against, as there being almost a certainty of the complaint soon returning, from the scrophulous disposition appearing very strong in the system, it then becomes necessary to have recourse to palliatives, so as to render the complaint as tolerable as possible ; and, with this view, opiates in large doses, by moderating the pain and procuring rest to the patient, will, in general, be found the principal remedy.

IN other respects, all such medicines and articles of regimen as are found beneficial in scrophula, may be had recourse to ; and for which, as it would be foreign to the intention of this paper to give an enumeration of them, a former section of the second part of this work, together with such authors as have wrote more fully on the subject, may be consulted.

F I N I S.



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